

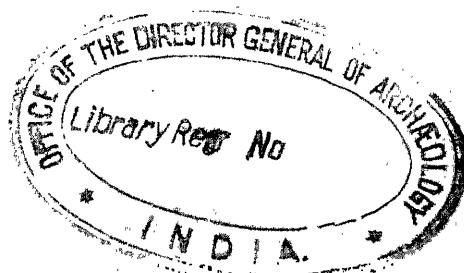
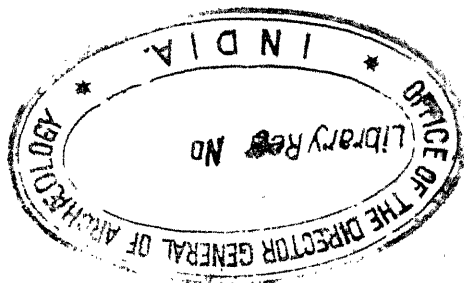
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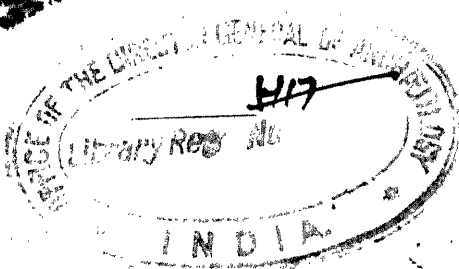
OF

AMERICAN ARCHAEOLOGY AND ETHNOLOGY

HARVARD UNIVERSITY

PAPERS

VOLUME I.



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OF THE

PEABODY MUSEUM.

— Harvard University —

VOL. I. No. 2.

THE KARANKAWA INDIANS,

THE COAST PEOPLE OF TEXAS.

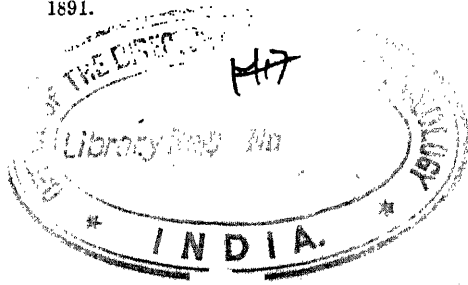
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BY

ALBERT S. GATSCHET,
United States Bureau of Ethnology.

WITH NOTES BY CHARLES A. HAMMOND AND ALICE W. OLIVER AND A VOCABULARY
OBTAINED FROM ALICE W. OLIVER.

CAMBRIDGE, MASS.
PEABODY MUSEUM OF AMERICAN
ARCHÆOLOGY AND ETHNOLOGY.
1891.

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PREFATORY NOTICE.

IN November, 1888, it fell to my good fortune to make the acquaintance of Mr. Charles A. Hammond, the Superintendent of the Boston, Revere Beach and Lynn Railroad, whose workmen had discovered a burial place of the Massachusetts Indians at Winthrop. With a consideration for scientific research worthy of his education and attainments, he notified me of the discovery and held the place intact until I could carry on a systematic exploration. During this work I daily met Mr. Hammond and in the course of conversation he told me of Mrs. Oliver and of her having known the Karankawa Indians whose language she had learned, and of the vocabulary he had gathered from her. We both realized the importance of this vocabulary as the remnant of a language now extinct, and I urged its publication with such an account of the tribe as Mrs. Oliver could furnish. The manuscript was soon given to me.

Knowing of the researches of Mr. A. S. Gatschet and that he was particularly interested in the languages of the southern tribes, I sent the manuscript to him with the request that he would edit it for publication by the Peabody Museum. Mr. Gatschet, while in Texas in 1884 and 1886, had searched in vain for trustworthy information on this language, and his surprise at receiving the vocabulary and learning that there was a lady in Massachusetts who understood the language can be imagined. He soon obtained leave from the Director of the U. S. Bureau of Ethnology to visit Mrs. Oliver, and his visit resulted in securing from her considerable additional information, drawn forth by critical and systematic questions which would occur only to one who had made Indian languages his life-long study.

The several papers resulting from the fortunate series of incidents to which I have referred, are here published as the second number of the Special Papers of the Museum.

Greatly regretted by all who knew her, the gifted and intelligent

lady who had once known a now extinct tribe, and who was the only person from whom a vocabulary could be obtained, died within three months after she had done what she could to put on record a language which she had learned and spoken in her youth.

This incident is certainly a most conclusive argument for the necessity of *immediate* work among all the Indian tribes; that their language and their myths, their legends and their customs, may be investigated and recorded. In another year it will be too late to obtain many facts which can be secured during the present. The Indian is now fast merging into our civilization. His life is changing and his language and customs are rapidly disappearing. Let us, while we may, strive to atone for the unjust treatment he has received, since the first white men landed on the shore of America, by collecting and recording such facts relating to his past history as are yet attainable—facts so essential in a study of the phases of life through which all races are passing, or have passed, in the development of culture.

F. W. PUTNAM,

Curator of the Museum.

Cambridge, Mass., April, 1890.

NOTE.—The paging of the volume, of which this is the second paper, is given at the foot of the pages.

BIOGRAPHICAL NOTICE OF MRS. OLIVER.

BY CHARLES A. HAMMOND.

ALICE WILLIAMS OLIVER was born in Beverly, Nov. 27, 1828. She was the only daughter of Capt. Thomas Bridges¹ of Beverly who was a successful shipmaster. After a number of fortunate voyages to different parts of the world he found himself in New Orleans at the time of the Texan "War of Independence" with Mexico (1836), and being of an adventurous spirit he engaged in transporting munitions of war and other supplies from New Orleans to Matagorda, Texas. Afterward learning of the offer by the State of Texas of a township to any one who would bring his family there and reside on it, he with his brother William (who was the mate of a ship) went out and located his land on the shores of Matagorda bay, taking his family there in the year 1838.

The writer first became acquainted with Mrs. Alice W. Oliver in the year 1869, and was much interested in the narration of her experiences of Texan life. Her mother, a finely-educated woman, took great care to bring up her daughter so that she should not lose any accomplishment through separation from the educational advantages she had herself enjoyed, and regular lessons were learned daily. Their house in Texas, not far from the city of Matagorda, was ever open for the entertainment of guests for as long as they chose to stay, and many persons of mark who were attracted by the inducements offered by the new republic stopped there *en route*. A

¹Capt. Thomas Bridges (born in Beverly, Sept. 21, 1795; died in Texas 1848) was the oldest of the four children of Benjamin Girdler Bridges (born Sept. 8, 1771; died Apr. 18, 1816) and Abigail Mercy Blyth (born Aug. 26, 1772; died Aug. 15, 1830), who were married Jan. 1, 1795.

Capt. Bridges married (Aug. 10, 1825) Hannah Helliger Horton (born in Marblehead March 28, 1798; died Aug. 9, 1853) who was the daughter of Capt. Samuel Horton by his second wife, Mrs. Eleanor Williams (née Broughton). Two children were born to Capt. Bridges; Thomas, who died in infancy, and Alice Williams who married William F. Oliver (born in Lynn 1810; died in Lynn, Feb. 7, 1877), their children being Alice Cora (wife of Charles A. Hammond) and Sarah Jane (wife of Charles E. Lovejoy).

number of foreign gentlemen at different times thus shared the hospitalities of Capt. Bridges, among others Prince Salm-Salm and suite, in connection with a German colonization scheme. From another guest, a French gentleman of high attainments, Mrs. Oliver received instruction in the French language, the knowledge of which remained with her through life. But her indoor pursuits were also mingled with abundant opportunities for outdoor exercise and she became an expert horsewoman, often taking long rides over the prairie and along the shores of the beautiful bay.

Mrs. Oliver often referred with great interest and enthusiasm to her delightful life in Texas, and among other things spoke particularly of the Indian tribe of Karankawas (also written Carancahuas) in whom she came to take a great interest and whose language she succeeded by persistent effort in acquiring, sufficiently, at least, for all ordinary conversation, writing down such new words as she learned, and subsequently verifying them as parties of Indians encamped each summer near her dwelling, with whom she soon became a great favorite.

It was the writer's sincere lament of the fact that the record which Mrs. Oliver had made and preserved for a number of years had been lost, that led her to reproduce from her memory as many of the Indian words as possible; and in this, though the attempts were at intervals during several years, she succeeded most remarkably, so that it was the writer's privilege thus to record over a hundred words of this now extinct and unwritten language. It was upon making the acquaintance of Prof. F. W. Putnam, of Cambridge, Mass., in connection with certain discoveries of Indian remains, made while building a railroad in the town of Winthrop, Mass., that this list of words was brought to his attention; and this resulted in the visit to Mrs. Oliver by Mr. A. S. Gatschet of Washington, in November, 1888, at which time he carefully went over the entire list with her and succeeded in obtaining a number of additional words as well as further information concerning the manners and customs of this interesting tribe, once very powerful and greatly feared, but of whom it is believed that not a single descendant is now living.

Further investigations with some comparison of words of neighboring tribes were about to be undertaken when interrupted by the death (after a brief sickness) of Mrs. Oliver, Feb. 8, 1889.

Lynn, Mass., March, 1890.

THE CARANCAHUA TRIBE OF INDIANS.

BY CHARLES A. HAMMOND.

DURING the revolt of Texas against Mexico, known to all Texans as the "war of independence," Capt. Thomas Bridges, of Beverly, Mass., being in New Orleans with his vessel, was engaged to carry arms and supplies from New Orleans to Texas ports, running the Mexican "blockade." At the close of the war he settled on a tract of land, or "head-right," situated upon the northerly shores of Matagorda bay, and soon after, in January, 1838, brought his family to reside there. During the succeeding ten years his daughter, an only child, became much interested in a wandering tribe of Indians, the once numerous Carancahuas, and succeeded in acquiring many of their words, so that she was able to converse with them in their own language. As fast as learned she wrote the words down to the number of five or six hundred. This record, unfortunately, is lost, but its compiler in after years (1871) drew from her memory and repeated to the writer a list of one hundred and thirty-four Carancahua words, including the ten numerals, and these are embodied in the following vocabulary.

Mrs. Oliver stated that when the Indians conversed they carefully husbanded or somewhat repressed their breath, and, at the end of a sentence or isolated word, it escaped in a gentle sigh or "breathing,"—giving the speakers an air of ennui; this was heightened by their "conversational" expression, which was stolid and slightly contemptuous, and by their custom of never looking at the person to whom they were talking, as if their speech was an act of utter condescension.

Many different parties of Indians encamped near the residence of Captain Bridges during successive seasons, and were often surprised at being accosted by a young white girl in their own language. The words obtained by her were thus verified as to their signification, and one or two instances of deception exposed. The innocent

use of a false word, such as *tesnakwák'n* for *tesnakwáya* (milk), caused the Indians much amusement, and they kept repeating the false word softly to themselves with a sort of quiet laughter. They were very exact in their pronunciation and ridiculed poor elocution, such as the hasty utterance of the Italian word *madonna* to represent their word *madónä* (pig).

Their parties usually voyaged from place to place along the coast in their *canoes*, or "dug-outs," which were made from large trees, the bark left on. One side of the log was hewed flat and the log was then dug out, the ends bluntly pointed, leaving a triangular place or deck at each end. The women and children and household goods occupied the "hold," while the father of the family stood on the stern and poled the boat along, keeping not far away from the shore. On arriving at a landing place, the men hauled the canoe up on the beach and then left the women to set up the wigwams.

The site of their *camp* was always close to the beach or bluff, and the squaws carried the tent poles, bundles of skins and such simple utensils as they possessed to the site selected and proceeded to build. A dozen slender willow poles about one and one-half inches in diameter and fifteen to eighteen feet long, sharpened to a point for boring into the soil, were set in a circle ordinarily of about ten or twelve feet in diameter, but varying with the size of the family or families — for two often occupied the same hut. The poles were about a yard apart and admitted of entrance between any two. The tops of the poles were then bent over toward the centre and interlaced in a rude sort of wickerwork aided by an occasional thong of deer skin. Upon this light framework they usually spread deer skins, adding sometimes the skin of a bear, a wild-cat or a panther carelessly fastened to the poles with deer thongs. They never thus covered more than one-half of the wigwam, or *bá-ak*, and always selected the windward side for this protection; should the wind change decidedly, or should the sun beat down too fiercely, they changed the position of the skins for shelter or shade.

After the hut was built, a fire was made. The squaws usually begged *fire* or matches from the settlers, but in case they had no other means of kindling it, they resorted to the primitive method of producing it by friction of wood. Their *fire-sticks* they always carried with them and kept them carefully wrapped in several layers of skins tied up with thongs and made into a neat package;

they were thus kept very dry and as soon as the occasion for their use was over, they were immediately wrapped up again and laid away. These sticks were two in number. One of them was held across the knees, as the Indian squatted on the ground, and was about two feet long, made of a close-grained, brownish-yellow wood (perhaps pecan), half-round in section, the flat face (held upward) about an inch across in which were three holes about half an inch in diameter and of equal depth, the bottoms slightly concave. The three holes were equally distant apart, about two inches, and the first one was the same distance from the end of the stick which rested upon the right knee. In one of the holes was inserted the slightly rounded end of a twirling stick about eighteen inches long, made of a white, soft wood, somewhat less than the diameter of the hole, so as to turn easily. Holding the twirler (which was perfectly cylindrical) vertically between the palms of the hands, a gentle but rapid alternating rotary motion was imparted. After continuing this for about five minutes, the abrasion of the softer wood caused a fine impalpable dust to collect in the hole from which soon issued a thin blue line of smoke; as soon as the Indian saw this he quickly withdrew his twirler with one hand, while with the other he caught up and crushed a few very dry leaves, previously placed on a dry cloth close by (having been produced from their wrappings in which they had been carefully preserved for this very purpose, to serve as tinder), and very quickly but lightly sprinkled them in and around the hole, over which both hands were then held protectingly, the head bent down and the incipient fire fanned to a blaze with the breath. As soon as the blaze had fairly caught, the stick and tinder were deftly turned over upon a little pile of dry twigs and leaves, made ready beforehand, and the fire was started. This operation of producing fire was always performed by the men. The fire was invariably built in the centre of the hut upon the ground, and was usually kept burning, — for the Indians never slept regularly but whenever they pleased, being often asleep in the daytime and awake nights or *vice versa*, as they felt inclined.

The Indians' *lodge-furniture* consisted of skins,—single skins to sit upon and a small pile of skins for a bed. Their *food*, — venison, fish, oysters, turtles, etc., — was always either boiled in rude earthen pots or roasted in the ashes of their fire. They also baked in the ashes cakes of flour or meal obtained from the white people, and in their season they gathered berries, nuts, persimmons, wild

grapes, etc., and at certain times in the year obtained quantities of sea-birds' eggs of many different kinds of which they were very fond. *Fish* were abundant, — red-fish, sea-trout, flounders, sheep's-head, Spanish mackerel and Jew fish. The Indians took their fish by the same weapons with which they hunted their game, viz.: the bow and arrow, and they were remarkably expert in this way of fishing. Whether in their canoes, or while standing in the water after wading out hip-deep, no matter how turbid or rough the water might be, their aim was unerring; holding their arrow in place with drawn bow and watching intently, suddenly "the arrow flies and the fish dies," and then as it rises to the surface it is easily secured. Often when the white people had tried in vain with their hook and line, the Indians with their trusty bow never failed to capture a fish. It seems that they could feel the approach of a fish in roiled water by the motion or undulation of the water below the surface.

The *weapons* of these Indians consisted of bows and arrows of their own manufacture, clubs and tomahawks, and long, double-edged knives procured from the whites. These knives were carried in sheaths attached to belts of deer-hide. They had also hatchets and axes, of the ordinary patterns, for domestic use.

Their *utensils* were few and simple, — rude wooden spoons, and a few clay vessels of different sizes with bottoms rounded — never flat. The women had needles made of fish-bones with smooth nicely-made eyes which carried threads of fine deer sinew manufactured with great care and patience, and with these they made their skirts of dressed deer skin. They had no covering of any kind for the feet or for the head.

Their *bows* of red cedar conformed to a certain rule of length, according to stature, reaching from the foot to the chin or eye. They were beautifully made and kept well oiled and polished. At the middle, the bow was about two inches wide, and one and a half inches, or so, thick. The bow-string was formed of twisted deer sinew of many fine strands aggregating one-fourth of an inch in diameter, making a very strong line perfectly smooth and hard. Great pains were taken to keep the line smooth and in perfect repair, any slight tendency toward fraying being at once remedied.

The *arrows* were about a yard long, the shaft something over half an inch in diameter with a sharp thin steel head about three inches long, the shank of which was set in a cleft of the shaft which

was wound with sinew. The arrows were feathered with wild geese wing-feathers, three being set equidistant around the shaft, in slots or clefts and then wound. The feathers were about six inches long and showed about one-half inch from shaft. In shooting, the arrow was held with one feather on top, vertical, and the other two radiating downward and outward. The bow was held with the left hand in the firm grasp of the palm and fingers, so that the thumb was free to move; the shaft of the arrow thus rested on the first thumb joint, so allowing one of the two lower feathers to pass on each side of the thumb and also clear of the bow, and permitting accurate aim. The bow-string was drawn to the *left* cheek by the first two fingers of the right hand hooked over the string, one above and the other below the arrow-shaft.

The foregoing information was obtained from Mrs. Alice W. Oliver, who at the request of the writer also composed the following "Notes" on the history and customs of these Indians.

Lynn, Mass., Nov. 5, 1888.



NOTES ON THE CARANCAHUA INDIANS.

BY ALICE W. OLIVER.

BEFORE the commencement of the war with Mexico, which secured to Texas her independence, there seems to be no record of the Carancahua tribe of Indians, though they had probably long been inhabitants of the country. At that time they were a very powerful and warlike nation, exceedingly dreaded by the Mexicans and by other tribes of Indians for their unparalleled ferocity and cruelty. They were cannibals, and horrible stories are still told of atrocities perpetrated upon certain isolated families, who were among the pioneers upon the coast of Texas. Continual tribal wars, in which the Carancahuas appear to have suffered disastrous defeat, about this time reduced their numbers considerably, so that when, at the beginning of the war, their services were offered to the Mexicans, 3000 warriors were supposed to represent the strength of the tribe.¹ They rendered very efficient service to the Mexicans by harassing the few scattered families along the coast where soldiers could not have found their way, and passing like birds of prey silently and swiftly in their canoes along the shore, from Copano along the Trespacios and Matagorda bays, always managed to elude pursuit. Swooping suddenly down upon the defenceless inhabitants, they spared neither age nor sex, involving every living being in one general massacre. They disappeared as silently as they came, leaving only a few ruins to tell the story.

Subsequently, owing it is supposed partly to the effect of certain treacherous conduct toward them on the part of the Mexicans, and partly to the fact that the Indians probably began to foresee the final result of the war and the importance of gaining the protection of the Americans when their sway should become established in Texas, these Indians, with other tribes, about the time of the

¹ From two hundred to two hundred and fifty warriors is all we can assume for that period.—A. S. G.

memorable battle of the Alamo, or immediately after, left the Mexican army and became nominally the allies of the Americans who were then steadily gaining strength and power. In the battle of the Alamo these Indians suffered greatly and many of their warriors — the flower of the tribe indeed — were either killed or captured. They were, from that time, under the protection of the American flag, and the settlers were thus secure from their further depredations; for the Indians perfectly comprehended that their existence as a tribe depended thereafter entirely upon their implicit obedience, at least so far as outward acts were concerned, to certain conditions which were imposed as the price of their protection; any deviation would mean utter extermination. Probably their tendencies were always unchanged, and their sympathies were toward the Mexicans notwithstanding, and their hatred of the Americans was longing for some safe opportunity to betray itself. One such instance is recorded, where detection seemed impossible (to them), but it was discovered and followed by a retributive action on the part of the Americans which virtually destroyed the tribe and reduced the remnant to utter and abject submission.

After the close of the war and the establishment of American rule, these Indians continued the same wandering ways regarding their domestic life, as they had always observed. They had never any settled abiding place, but wandered from point to point, all along the coast; now, no longer free to come and go, or linger at their pleasure, but living their lives under protest as it were and only on sufferance. As their tribal strength declined, and they realized that their traditions were the only inheritance of their children and that the deeds of their generation could never add any lustre to the record, that in a few years they would be utterly extinguished as a nation, the spirit seemed to die within them and their degradation was complete. Their life remained unchanged in its general features. The chase and fishing had always been their chief dependence and so it continued to a great extent; their habits were primitive in the extreme, but here, as always, the blighting touch of civilization left its baneful trace and hastened the doom of the fast diminishing tribe. They had always lived an itinerant life, passing in their "dug-outs," which were long and very narrow, yet capacious, from spot to spot, stopping generally where some settler had made his home, always where fresh water and brush-wood for their fire were easily attainable. The long, slender poles

for their rude tents, or wigwams, were very carefully and skilfully twisted together and bestowed in their canoes. Besides a few cooking utensils, skins for their beds, and their bows and arrows they had literally no possessions. The task of erecting the tents by laboriously boring the willow poles into the earth at either end, carefully pointed, crossing at the top, and covering the windward side with undressed skins, the bringing of water and wood and other menial tasks, were always performed by the women. The fire was in the middle of the tent, upon a few stones, and the fish or venison was cooked and eaten, not with salt but with chile, fingers taking the place of forks. The men were very tall, magnificently formed, with very slender hands and feet. They were not very dark, and many of them had very delicate features and, without exception, splendid teeth. Their long, black hair was rarely combed but frequently braided and adorned with bits of colored flannel, sometimes terminating in the rattle of the rattlesnake, which, dry and shining, made a faint ringing sound as the wearer moved. Around the left wrist was a small strip or bracelet of undressed deer skin, worn by women as well as by men. The women were rarely ornamented in any way, were generally plain, short of stature, stout and usually disagreeable looking and exceedingly dirty, as were also the men.

There seemed to be almost no young girls among them and very few children or infants; caresses or fond expressions were almost never used, yet there was evidently an affectionate recognition of the parental tie, on the part of the mother at least; but never was any responsive tenderness observed in a child. The dress was simply a waist cloth worn by the men, with a skirt of deer skin of exquisite softness for the women. The addition of a blanket, thrown over the shoulders, was the only other article of clothing. The children, till about ten years of age, were unclothed.

They were surly in their general aspect, averse to conversation, and the deep guttural of their language, as they occasionally talked with each other, always with averted faces, left the impression of extreme fatigue. They were exceedingly dirty in all their habits and had probably never known the voluntary application of water; their continual wading in the salt water, however, kept them cleaner than might be supposed, but the odor of the shark's oil with which they habitually anointed their entire bodies as protection against mosquitoes, rendered them very offensive.

Once in a while they held a sort of solemn *festival*, or religious ceremonial, of what particular significance could not be exactly discovered. It was always celebrated at the full moon and after a very successful hunt or fishing expedition. A number of Indians, who all happened to be together at the time, assembled in a tent which had been enlarged for the purpose, in the middle of which was a small fire, upon which boiled a very strong and black decoction made from the leaves of the youpon tree. From time to time, this was stirred with a sort of whisk, till the top was covered thickly with a yellowish froth. This "tea," contained in a vessel of clay of their own manufacture, was handed round occasionally and all the Indians drank freely. It was very bitter and said to be intoxicating, but if so it could only have been when drunk to great excess as it never seemed to produce any visible effect upon the Indians. These, seated in a row round the inside of the tent, looked very grave and almost solemn.

One tall Indian, probably a chief, stood within the circle and passed round and round the fire, chanting in a monotonous tone. He was a grotesque figure, being wrapped up to his head in skins, and his face concealed; his long, black hair streamed over his back, and he bent nearly double as he moved about, seldom raising himself to an erect posture. The chant rose and fell in a melancholy sort of cadence, and occasionally all the Indians joined in the chorus which was Ha'-i-yah, Ha'-i-yah; hai', hai'yah, hai'yah, hai'yah. The first two words were shouted slowly, then a loud hai', then a succession of hai'-yahs very rapidly uttered in chromatic ascending and descending tones, ending in an abrupt hai!! very loud and far reaching. There were three instruments of music, upon which the Indians accompanied the chant. One, a large gourd filled with small stones, or shot, was frequently shaken; another was a fluted piece of wood, which was held upon the knees of the player and over which a stick was quickly drawn producing a droning noise; the third was a kind of rude flute, upon which no air was played, but which was softly blown in time to the chant.

This "fandango" was always kept up all night, and as the hours went on the chanting became louder and more weird, and the fire, allowed to burn up furiously, illuminated the earth and sky, producing, altogether, a frightful effect.

The day following was always a quiet one and the Indians slept or moved languidly about. If, as sometimes happened, they had

obtained some whiskey, it was used instead of the youpon tea, and then the Indians became intoxicated, very quarrelsome and often really dangerous, fighting among themselves and lurking about the dwellings of the settlers, stealing from them articles of food or household utensils, and begging continually—rarely willing to perform the slightest task whatever the offered reward.

In regard to any sacredness of feeling, or particular rites in reference to the burial of their dead, they seemed entirely indifferent. No place of sepulture belonging to them ever was alluded to by them, or ever discovered, and wherever one of the tribe died there he was also interred.

The peculiar distinctive marks of the tribe were: a small circle of blue tattooed over either cheek-bone, one horizontal line extending from the outer angle of the eye toward the ear and three perpendicular parallel lines, about one-fourth of an inch apart, on the chin from the middle of the lower lip downward, and two others under each corner of the mouth.

Their method of communicating with each other, when parties were at a distance, was by smoke. By some means known only to themselves and carefully kept secret, the smoke of a small fire could be made to ascend in many different ways, as intelligible as spoken language to them. At night the horizon was often dotted in various directions with these little fires, and the messages thus conveyed seemed to determine the movements of the Indians.

They were strictly silent upon the subject of their marriage ceremonies, though they certainly did not practise polygamy, but between husband and wife there was always a perfect indifference in manner.

It is believed that at the present time not one of this tribe of Indians is in existence and these few lines are their only memorial.

AN ANECDOTE.

The Indian of song and story, the Indian immortalized by Cooper was certainly a very different being in his noble, generous impulses and his glorious, self-sacrificing life, from the type represented by the Carancahuas, whose character seemed entirely destitute of heroic traits. Recollection furnishes only one instance, in an experience of years, of generous kindness.

A young daughter of a settler on Matagorda bay had been in the habit of interchanging kindly courtesies with the wife of one of the chiefs, who manifested some attachment to her.

This young girl was exceedingly sick during several weeks of a particularly hot summer, when a fearful drought prevailed and water was very scarce and brackish. A newly finished and very capacious rain-water cistern had long awaited the anticipated rain, which was withheld till all animal and vegetable life seemed perishing. A party of Indians, among which were the chief and his wife, of whom mention has been made, had been encamping near the home of the young girl and of course knew of her sickness. They had left for the home of another settler, about three miles distant across the bay, where there was a cistern, filled by the last rain, with pure, fresh water.

The night after their departure, the family of the first settler were aroused about midnight by a fearful noise and tumult, and on seeing in the moonlight the forms of several Indians, were extremely alarmed and excited. The settler, a man of remarkable courage and always hitherto upon friendly terms with the Indians, rushed down stairs, rifle in hand and found three or four of his hired men, who had been sleeping upon the piazza, also with their guns, prepared to defend themselves against a supposed treacherous attack of the Indians. As soon as the master of the house appeared, the Indians, who had been apparently trying to explain the cause of their appearance, came toward him with outstretched hands, and the chief, presenting a large jug, which had been concealed by his blanket, said in his few words of English: "You water no good—you Alice sick—here, water good—Alice drink." The gratitude and delight of the father cannot be expressed, and the Indians returned to their tents loaded with gifts.

Lynn, Mass., Oct. 30, 1888.

THE KARANKAWA INDIANS.

By ALBERT S. GATSCHET,
Of the U. S. Bureau of Ethnology.

*Omnes illacrimabiles
urguentur ignotique longa
nocte; carent quia vate sacro.*

OUR historic information concerning the once populous Texan nation of the Karankawa is an average specimen of the fragmentary manner in which Indian history and the general history of mankind as well is transmitted to our knowledge. Chance and fate, powers uncontrollable by the human species, decide whether we are to have any knowledge or not of an important people or of its noteworthy rulers or public characters; fires, floods, tornadoes, wars and the ravages of time have often destroyed the only documents left of the literature of a people, or of its style of architecture and art; or when something has come down to our times, which testifies to their existence, we often have to scrape together our information from the most insignificant and minute sources, frequently distorted by unsafe, traditional reports.

To render our knowledge of the past still more checkered and unequal, insignificant towns and tribes are often described at length and the deeds of their *petits grands hommes* extolled beyond measure. Why? Only because they happened to exist in the vicinity of literary centres, or of men of culture who filled their leisure hours in writing their biographies or chronicles. At other times events of little importance are magnified into deeds of consequence, while men of heroic mind or eminent capacities are misrepresented as being mere common-place individuals.

With our knowledge of the Karankawa Indians chance has played a capricious game as well as with that of many other tribes. Although their tribe figures as a people of consequence in Texan colonial history, the information left us by the chroniclers of the times does not give the necessary points enabling us to classify

them according to race and language. Their records report that cruelties were inflicted by them upon harmless settlers; they discuss their bodily appearance, their weapons, implements and canoes, with some of their customs, but they are silent concerning their religious ideas, their migrations, their tribal government, and especially their language, which is the most important characteristic of each tribe, and we have to deplore that even in *our scientific age* so little attention is paid to the tongues of primitive nations.

What our predecessors in Texan ethnography have failed to transmit to us, we can in a small degree supply now, by drawing our conclusions from all the *disjecta membra* of Karankawa history and tradition. There is a considerable number of these disconnected notices to be found, more than of many other western or southwestern tribes, but as to their language, probably no living individual can inform us now about its strange accents and primitive vocabulary beyond what we here present.

For convenience I have subdivided the *historical* facts concerning this people into four sections:

- I. The Karankawa people from the earliest historic times down to 1835, the beginning of Texan independence.
- II. Other Indian tribes of the Texan littoral.
- III. Tribal synonymy of the Karankawas.
- IV. The Karankawa tribe after 1835; its decline and extinction.

Then follow:

- V. Ethnographic sketch of the Karankawa Indians.
- VI. Treatise upon the Karankawa language.

Washington, D. C., *January*, 1890.

NOTES ON KARANKAWA HISTORY.

I. THE KARANKAWA PEOPLE FROM THE DISCOVERY DOWN TO THE YEAR 1835.

*Primosque et extremos metendo
stravit humum sine (clade) victor.*

THE earliest report we possess on the coast tribes among which the Karankawas have dwelt during the historic period, is contained in the twenty-sixth chapter of the "Naufragios" composed by *Alcar Nuñez Cabeça de Vaca*, one of the four men who were saved from the unfortunate expedition of Pamfilo de Narvaez. From 1527 he subsisted for seven years among the coast tribes, destitute of every thing, even of garments, but as a trader and medical practitioner he managed to earn a scanty living. He thus became acquainted with many tribes, even of the interior tracts, and gives descriptions of them in his above-mentioned record. Among the coast tribes he mentions the Caoques, Han, Chorrucó, Doguenes, Mendica, Quevenes, Mariames, Guaycones, Quitoles, Camoles, los de los Higos.¹ None of these can be identified with the tribes known in later times as the Karankawas or the Ebahamos (to be described below), though some of them must have lived in the same districts.

Joutel, the companion of Robert Cavalier de la Salle on his last and unfortunate expedition, has left a journal of his travels, in which he mentions the Koienkahe among the tribes living north of the Maligne river, and also the Kouyam and the Quouan in the same tracts (*Margry, Découvertes* III, 288; date: February, 1687). In another edition of this journal, the Koienkahe are called Korenkake,² and placed between St. Louis bay and the Maligne river. In the Korenkake and the misspelt Koienkahe we easily recognize

¹Barcia, *Historiadores Primitivos de las Indias occidentales*, etc., Madrid, 1719. Vol. I, No. 6. The customs are described in chapter 25; (ch. 25 como los Indios son prestos a un arma); ch. 26: De las naciones i lenguas; here he says: "En la isla de Malhado (where he landed) ai dos lenguas: a los unos llaman de Caoques, i a los otros llaman de Han. Adelante, en la costa del mar habitan los Doguenes, i enfrente de ellos los de Mendica," etc. If any of the locations described by him were held by Karankawas, they were probably those of the Caoques and the Han, who both lived on a sandbar. H. H. Bancroft, *Works*, XV, p. 64, believes that the Isla del Malhado was in San Antonio Bay.

²B. F. French, *Histor. Collections of La., I*, 134 sqq.

the Karankawa Indians, while the Quouan, in French spelling, appear to be the Cujanos.

Long lists of other Indian tribes are added to these passages, subdivided into tribes living north and in others living west and northwest of the Maligneriver. Where the exploring party crossed this river, it was as wide as the Seine at Rouen and probably it was the Colorado river of the present day. Some of these tribal names have the ring of Karankawa words, but since many are written differently in the two lists,¹ we cannot attempt to analyze any of them here. The tribes permanently hostile to the people among whom the expedition was then staying, lived to the southwest, toward the Rio Grande.

Joutel then adds a short ethnographic notice upon the habits and customs of these coast people (Margry, Déc. III, 286-292), whom he had leisure enough to study before the expedition started on its way northeast. They seemed to be peaceable and rather timid than obtrusive; except during the heavy "northers" the male sex went about in a perfectly nude state, while the females wore skins reaching from the belt to the knees. They had baskets and made some pottery for cooking their victuals; they possessed horses, which they could have obtained only from the Spaniards; the dogs seen among them were *voiceless*, their ears were straight and their snouts were like those of foxes. When upon the Maligne river, the horses were always seen fleeing whenever Indians were approaching, or bathing in the current of the river (p. 286). Whether these Indians had any idea of religion, Joutel was unable to ascertain; when questioned they pointed to the sky, and the Frenchmen were regarded by them "almost as spirits" (p. 292).

This author also relates that R. C. de la Salle enjoined his men to treat these Indians with care and propriety and made small presents to them to keep them in good humor; for, said he, if a conflict should occur between us and these savages, we would be too small in numbers to resist them successfully.

Among the tribes mentioned in that vicinity is that of the *Ebahamo*, *Hebohemos*, *Bahamos* or *Bracamos*. Joutel states in his narrative (French, Hist. Coll. La., I, 134) that de la Salle took a vocabulary of their language, which is very different from that of the *Cenis* and more difficult; that they were neighbors and allies of the *Cenis* and understood part of their language. Cavalier (in

¹ One list in Margry, Déc., and the other in B. F. French.

Shea, *Early Voyages*, p. 22) states that the "Bracamos" dwelt near the fort and that the French tried to cultivate their friendship (March, 1685). Delisle's map (about 1707?) places them west of a river emptying into the St. Louis (or St. Bernard) bay, Fort Louis being on the mouth of said river, west shore.¹ Father Donay mentions them as being hostile to the tribe of the Quinets.² Their name resembles the Karankawa term béhema, which is mentioned in our vocabulary. After that no further mention of them is made in the annals or documents.

When *Robert Cavelier de la Salle* returned to these parts, early in the year 1687, he made explorations from Fort Saint Louis, which he had previously built upon St. Louis bay (part of Matagorda bay) into the surrounding districts. On one of these excursions he took away from the Clamcoët Indians some canoes to sail up one of the rivers emptying into the bay, and to establish a settlement. They felt enraged at this act, and although peace was made, their passions were aroused. When they heard of La Salle's departure and assassination they attacked the (twenty or more) French men and women left in the fort at a time when they were off their guard and massacred all but five (1687). Those who were spared underwent no punishment except painful tattooing and being compelled to follow the Indians on their hunts and war-expeditions.³ In 1689 these French people were rescued by a Spanish expedition under Don Alonso de Leon.⁴ That the Clamcoët, or as they were also called, Quelanhubeches, are the same people as the Karankawas will soon appear.

After the close of the Spanish succession war, the government of Spain resolved to put a stop to French encroachments upon territories which it considered to be its own, by occupying the immense country now known as Texas and establishing colonies, forts and missions upon its area. The Sabine river was to be the limit between French Louisiana and the new Spanish possession, which went under different names (provincia de las tecas, provincia de las Nuevas Filipinas were the names for the portion east of Medina river) and governors were installed in two fortified places, Nacogdoches and San Antonio de Bejar.

¹Map reproduced in J. Winsor, *Hist. Amer.*, II, 294.

²Shea, *Early Voyages*, p. 21 (note).

³Cf. Interrogatory of P. and J. Talon, in Margry, *Découv. et Etabl.*, III, 613-616.

⁴Barcia, *Ensayo*, p. 294. Shea, *Discov.*, p. 208 (note).

Not long after this (since 1716) a number of missions were established to christianize the natives and from that time onward we possess some historical though scanty information upon the Texan tribes. Not all of these missions had churches or other buildings erected within their areas, as was done on a large scale in and around San Antonio de Bejar and in the southern part of California, but in many of them the curate became an *itinerant* teacher and adviser of the natives to be converted. This was the case, *e.g.*, upon the lower Rio Grande and probably also in some of the missions of eastern Texas.¹

Although Spanish domination was now firmly established throughout Texas,—at least in the southern parts of what is now Texas—but little is transmitted to us about the natives of those parts during the first half of the eighteenth century and the state documents preserved in Austin do not begin earlier than 1740. From French writers of the period we gather a few points which probably refer to the Karankawas or some people closely cognate with them.

A French officer, Simars de Belle-Isle, was exploring the western countries and had the misfortune of being captured by the Indians. He lived fifteen months in slavery among a people of anthropophagists residing at the bay of St. Bernard, one of the seats of the Karankawas, from 1719 to 1721, and when released and returned to the French colony on the Mississippi river, the narrative of his tragic fate excited the compassion of his countrymen to such a degree that all the contemporaneous writers on Louisiana refer to it.²

Contemporaneously with de Belle-Isle's stay among these natives, Bénard de la Harpe relates that Béranger, in 1720, found anthropophagists about one hundred and thirty leagues west of the Mississippi river (by sea) in Lat. 25° 45', on what he thought to be St. Bernard bay.³

Sixty years after these events, Milfort, a French commander, passed through southern Texas at the head of two hundred warriors of the Creek or Maskoki nation of Alabama, and five days travel west of St. Bernard bay met a tribe called Atacapas, who were anthropophagists, as this name designates, which is taken

¹ A comprehensive historic sketch of Texan missionary establishments will be found in H. H. Bancroft, *Hist. of the North Mexican States*, I, p. 609 (whole vol. xv).

² Cf. his own report in Margry, *Déc. et Etabl.* VI, 320-351, and what Le Page du Pratz, *Hist. of La.* (1758) and Bossu (1771) state about him.

³ French, *Hist. Coll. of La.*, III, 78, 79; cf. *ibid.*, 96-99.

from the Cha'hta language. In extenuation of this charge Milfort states, that "they do not *eat* men, but roast them only, on account of the cruelties first practised against their ancestors by the Spaniards."¹

Whether this last statement rests upon a misunderstanding or has to be regarded as a cruel irony, the fact is certain that these people were anthropophagists up to the beginning of the nineteenth century. The authentic and documentary proofs that all the original (not all the intrusive) Texan tribes were man-eaters are too numerous to permit any doubt of this fact. The Tonkawē, the Indians on the lower Rio Grande, the numerous Assinai (Cenis, now Caddo) tribes, and the Atákapa of southwestern Louisiana were all given to this horrible practice, and even at the present day the Tonkawē state that human flesh tastes like bear meat. Anthropophagism was also common among some Algonquin and Iroquois tribes settled around the great Canadian lakes. Ethnologists who through false philanthropy revoke in doubt the historic statements which prove the fact, have never been able to controvert these testimonies; they have only shown thereby their inability to place themselves into the state of mind of an aboriginal American savage. The two brothers Talon stated in their examination, that the Clamcoët did not eat the bodies of the slain Frenchmen, but were in the habit of eating those of their Indian antagonists. Jean-Baptiste Talon said, that they offered him the flesh of Ayonai Indians during three days, but that he preferred to die of hunger than to accept this food.²

Other instances of anthropophagy among the southern tribes are numerous about that period. In 1719 Bénard de la Harpe reports that it existed among the Tawakaros³ and the Wichitas, who in one feast had eaten seventeen Cancys (Apaches).⁴ Pánis and Pádukas (Comanches) devoured each other's prisoners of war, as narrated by the same officer in 1719.⁵ One of the manifold motives for cannibalism was probably the expectation of depriving the dead of the possibility of living a second life and of taking revenge. In Mexico, Central and South America anthropophagy was more frequent and widespread than in the northern continent.

At the end of the eighteenth century we meet with some Spanish-

¹ Général Milfort, *Mémoire ou coup d'oeil rapide sur mes différents voyages et mon séjour dans la nation Crèk*. Paris. An. XI (1802), p. 90.

² P. Margry. *Déc. et Etabl.* III, p. 616.

³ Identical with the Tawákoni.

⁴ Margry, *Déc.* VI, 292.

⁵ Margry, *Déc.* VI, 312.

Mexican documents which give us an insight into the *civil condition* of the Karankawa and of some of the coast tribes of their neighborhood.

A document preserved in the state archives in Austin, consulted by me in December, 1884, is dated 1793 and mentions the foundation of *missions* among the Karankawas on Colorado river, among the Cocos (perhaps near Sabine river), the Horcoquisas on lower Trinity river, and among the Comanches. "It is impossible to christianize the Carancahuazes of the Colorado on account of the close friendship which they entertain with the Lipans The Carancahuazes originated and came from the coast and during summer continually live upon the islands, in winter in the surroundings of Refugio. For their crossings and fisheries they possess canoes, and there is also abundance of fish in the Nueces bay or river (en las Nuezes); they like to visit the bay (las lagunas) and the coast, as there are quantities of cactus-figs around it. From all this it appears how troublesome it would be for these Indians to give up their own territory; it is also important for us to have control of the Port of Mata Gorda, and hence the site selected [for their mission] at Refugio seems the best, as the lands there will never become deficient of the larger game, necessary for their sustenance; . . it will be necessary to establish a new fort (presidio) upon the spot proposed for locating the Carancahuazes upon Colorado river, which will be distant about twenty leagues from the site of Nuestra Señora del Refugio, where the other Carancahuazes live under the superintendence of Father Garza."

Refugio is the county seat of Refugio county and lies below the confluence of La Vaca and Medio creeks, midway between Corpus Christi and Victoria, about 28° 40' Lat. It is distant about one hundred miles in a southwestern direction from Matagorda town, which is built at the outlet of Colorado river. It appears that individuals of the Karankawa people were then settled at two places at least, and were changing their habitations with the seasons of the year. The Spaniards were in the habit of peopling their missions with the Indians of the neighboring tribes by using military force. The mission of Nuestra Señora de Refugio was established in 1790 and had sixty-seven Indians in 1793 (H. H. Bancroft, Vol. xv, p. 633). A census taken in 1814 shows one hundred and ninety individuals settled there (Texas State Archives).

Another mission, where some Karankawas had been settled with Aranama Indians and perhaps with other tribes also, was La Bahía del Espíritu Santo, on the southern bank of San Antonio river, and lying a little below the city of Goliad. A short distance separated it from Refugio, which is almost due south; a census of the mission taken in 1789 shows eighty-two individuals.¹ Mühlentfordt's work "*der Freistaat Mexico*" (1842), II, 120, even places the original sites of the Karankawa between Goliad or La Bahía and Aransas (Aranzaso), and for doing this he must have had some documentary evidence before him.

A document of the close of the eighteenth century, dated 1796 and extracted by Orozco y Berra in his "*Geografía de las Lenguas de Mexico*" (1864), p. 382, proves that the land occupied by the Lipans of the lower countries bordered east upon those of the Karankawas and the Borrados.²

The reports concerning this coast people, which date from the beginning of the nineteenth century, differ considerably from the earlier ones by the constant references made to the unparalleled ferocity and cruelty and the desultory, unforeseen attacks of these "barbarians." Horrible stories are still told by the descendants of the settlers of the cannibalistic atrocities practised upon the isolated families of their ancestors who had settled in the coast tracts. Not only the whites felt the rage of these aborigines, who began to see that gradually their coast lands would slip from their hitherto almost undisputed control, but also intertribal contests with the Lipans, Aranamas, Tonkawē, Bidai and chiefly with the Comanches, whom they greatly feared,³ called the Karankawa warriors to arms and inflicted heavy losses upon them before Texas became an independent commonwealth. Captain Thomas Bridges

¹ La Bahía del Espíritu Santo was founded as a *presidio* in 1722 on the site of de la Salle's Fort St. Louis on La Vaca river; transferred to the San Antonio river about 1724; moved up the river to its final site opposite Goliad in 1749. In 1782 its population was five hundred and fifteen. H. H. Bancroft, *Works*, Vol. XV, 633.

² Borrados or "Indians painted in stripes." The passage runs as follows: "Los Lipanes se dividen en dos clases nombradas de arriba y de abajo, con referencia al curso del Río Grande, cuyas aguas los bañan. . . . Los de abajo tienen sus alternativas de paz y guerra con los indios carancaguaces y borrados que habitan la marisma. . . . Por el oriente sus límites son los caranguaces y borrados, provincia de Tejas; por el sur nuestra frontera."

³ Maillard, N. D., the *History of the Republic of Texas*; p. 251 sqq. (London, 1842, 8vo) states that the "Carancahuas about the year 1796 commenced a sanguinary war with the Comanches, which lasted for several years."

used to state, that from 1800 up to his time about thirty war parties, and not more, had been sent out by these Indians.

The ferocity of the Karankawas is easily accounted for, when we consider the brutalities which they experienced at the hands of the white people who came to deprive them of their fishing grounds and coast tracts, and moreover interfered with their family connections.

While Galveston island was occupied by the well-known pirate Lafitte, some of his men in 1818 abducted one of the Karankawa women. To revenge this injury, about three hundred of these Indians landed on the sand-bar, near the "Three Trees." When this became known, two hundred of the adventurers, armed with two pieces of artillery, immediately proceeded down the island to meet the Indians, who after a stubborn fight and the loss of about thirty men withdrew to the mainland. After Lafitte had evacuated his position upon that island,¹ Dr. Parnell visited it in 1821 to hunt for treasures supposed to have been buried there by the freebooters. He found some Indians, attacked them and put them to flight. The historian Yoakum believes that it was through these attacks that the Karankawas subsequently became so hostile towards the colonists following in the wake of Stephen Austin.

In 1822 these Indians put to death four men left in charge of two vessels loaded with immigrants and goods, at the mouth of the Colorado river, and destroyed the goods.

Encounters between the settlers and the Karankawa Indians occurred not only on the coast, but also in the upper parts of the Texan tide-water section. Thus in 1823, when the city of San Felipe de Austin was founded on the lower Brazos river by Stephen Austin, one of the settlers reported that a number of Karankawas had come up the Colorado river and encamped at the mouth of Skull creek, a northwestern affluent of the Colorado in Colorado county, fifteen miles below his settlement.² From their ambush they killed Loy and Alley, two of his young friends who were just

¹ Quoted from H. S. Thrall, *Pictorial History of Texas* (1879), pp. 451, who also gives some of the incidents below. Lafitte, who died 1826 in Yucatan, first had his piratical headquarters, 1811-1813, on Grande Terre island, now Barataria, coast of Louisiana, and fought on the American side in the battle of New Orleans (1815).

² W. B. Dewees, *Letters from an early settler of Texas*; Louisville, 1854; pp. 37, 38 (letter dated Aug. 29, 1823). He also mentions having seen Tonkawé Indians; cf. p. 45.

returning in their boat with a load of corn ; a third man, Clarke, who was with them managed to escape, though severely wounded. He alarmed the settlers on the day following ; they gathered, ambushed the Indians and killed nine of them on one spot and ten more upon the prairie. More fights occurred on Bay prairie. These Indians are described by him as tall men of a stout, magnificent exterior, as excellent bowmen and fierce cannibals, who dwelt between the Brazos and Brazos Santiago.¹ Their bows were as long as they were themselves and they hit their mark with great precision at a distance of one hundred yards. They wore beautiful plaits of hair.

While engaged in surveying lands in 1824, Captain Chriesman had several skirmishes with the Karankawas on the St. Bernard river and Gulf prairie. The severest encounter was sustained by a company under Captain Randall Jones on a creek in Brazoria county, since called Jones' creek. Fifteen Indians were reported killed and the whites lost three men.

The destinies of this littoral nation began to take a decisive turn in 1825, when the Anglo-American colonists, who had largely increased in numbers, banded together to rid themselves of these predatory Indians, who had become exasperated by their frequent losses of warriors and revenged themselves by stealing and murdering. Col. Austin requested Captain Abner Kuykendall to gather a corps of volunteers and to expel the Indians from his land grant, which extended west to the La Vaca river. The Indians were routed and while the troops pursued them, they were met at the Manahuila (or Menawhila) creek,² six miles east of Goliad city, by a Catholic missionary of La Bahia, who took the refugees under his protection. He conveyed the promise of these Indians, that they would never show themselves again east of the La Vaca river, and this promise was accepted. But they did not keep this compact for any length of time ; portions of them returned to the Colorado river, committed new depredations and were scourged again by the colonists.³ This defeat is evidently the same event which is narrated by a relative of Stephen Austin, Mrs. Mary Austin Holley, in her book : *Texas* (Lexington, 1836, 8vo, with map) ; she is

¹ Near the southern end of Padre island, Texas.

² An affluent of San Antonio river coming from the northwest.

³ Thrall, p. 451. Baker, D. W. C., *Texas Scrap Book*, 1873 ; an article taken from *Texas Almanac*, 1872, and composed by J. H. Kuykendall is inserted there. The earlier volumes of the *Texas Almanac* contain many articles of value for Indian history.

more circumstantial in her account, but fails to give the date of the occurrence. In this she is equalled by many other chroniclers and historians of the west, who seem to think that history can be written *without any chronology*.

The same event is also referred to in a sensational article on this tribe inserted in "The Republic" of St. Louis, Missouri, of April 13, 1889, page 13, which appears to place this final reduction of the Karankawas after the time they had massacred the inhabitants and destroyed the town of Matagorda in 1827 (?) and adds an incident of warfare which took place near Old Caney and Peach creek. Not the least regard is paid to the causation and chronologic order of historic events.

Among the earlier American settlers it was an admitted fact, that many of the depredations and murders committed by Indians on isolated farms and upon inoffensive hunting parties passing through the country were instigated by the Mexican population, who regarded the Anglo-Americans as intruders and feared their increasing numbers. Mrs. Oliver also refers to the fact that some Karankawas together with other Indians formed part of the Mexican army, and that after the battle of the Alamo the American settlers retaliated heavily for the crimes committed by them with or without the behest of their Mexican superiors. This brought them into submission and made them perceive the necessity of being on better terms with their new rulers.

Their losses in numbers and the dissolute mode of life, which they had adopted while they were dependent on the Mexicans, did more than any other causes to bring on their decay as a national body and their final extinction. The sad story of their annihilation during the era of Texan independence, with some notices on their latest chiefs, will be recounted in another chapter.

To close up the period of the national independence, I intend to give a rapid survey of all the coast tribes known to have existed in the neighborhood of the Karankawas, an undertaking which may ultimately shed more light upon the affinities once existing among them in race or language than we have now. Another chapter will deal with the various names under which the Karankawa Indians, or portions of them, were known to the whites and Indians.

II. OTHER INDIAN TRIBES OF THE TEXAN LITTORAL.

*Interim dum tu celeres sagittas
promis, haec dentes acuit timendos.*

"SIMILAR climates produce similar habits and customs" is an ethnologic principle which may be accepted as true in its general sense, but is not without its restrictions. The gulf coast or tide water section of Texas has once harbored many *indigenous* tribes, called autochthonic, because they had forgotten all about the former migrations of their ancestors or congeners. These tribes, entirely identified with the country in which they grew up, all showed many analogies in their habits; they wore no moccasins, protected themselves with dress or skins in cold weather only, lived in the pure hunter and fisher state, painted and tattooed themselves, were anthropophagists and engaged in continual warfare among each other. To these belong the tribes of the Atákapa, of the Assinai, the Karankawa, the Tonkawéya and the Pakawá. But there were also some tribes in this littoral tract, who were *intruders* from the north and differed from the above in many of their customs, though by length of time they came to adopt some of these. We have to count among these intruders the various Apache-Tinné tribes, of which the Lipans were the most prominent, and also whatsoever of the Páni family (Wichitas, Tawakoni, Weko) advanced so far south as to reach temporarily the coast; also the Káyowe and the Comanches, the latter belonging to the great Shoshonian (Ne'-ume, Né'-uma) inland family. Of all these *intrusive* bodies of Indians none settled permanently on the coast except a portion of the Lipans.

I begin with the enumeration of such tribes as lived nearest to the Karankawa Indians, the numerous bays, inlets and sandbars of the Texas coast. With these the probability is greater than with the remoter ones that they were congeners in race or language with the tribe which chiefly occupies our attention. I shall often have occasion to refer to Professor J. C. E. Buschmann's notes on the Texan tribes, arrayed in alphabetic order in his "*Spuren der aztekischen Sprache*," Berlin, 1859 (*Transact. Roy. Acad. Sci-*

ences of 1854), pp. 417-455. He was the first scientist who published a methodic account of this portion of North American Indianology.

The *Aranama*, an agricultural and peaceable people, were settled upon the mission of La Bahía south of Goliad, where some Karankawa Indians also formed a part of the neophytes. They are reported to have previously fallen an easy prey to the warlike Karankawa, though no date is given for the event. Morse, in his Report (1822), mentions Arrenamuses to the number of one hundred and twenty men upon the San Antonio river and the tribe existed there much later.¹

Biskatronge; see Caoque.

Quoque was the name of a tribe living upon the sandbar where A. N. Cabeça de Vaca and his three companions suffered shipwreck, and which he calls Island of Misfortune (Isla del Malhado). They spoke another language or dialect than the Han, who lived upon the same island, and whose name appears to be the Caddo term hayánu, contracted into há-an, hā'n, *people, men*.² In another chapter of his "Naufragios" this people is called Capoques, and Father Anastasius Douay speaks of them as Quoakis, living near St. Louis bay, raising crops of maize and selling horses at low prices.³ They belonged to the Biscatrongs or "Weepers" seen by de la Salle's companions, and individuals of the same *gens* always went together,⁴ as reported by Cabeça de Vaca. These "Weepers" were called by that name, because before presenting a request or complaint, they cried and wept in the most piteous manner for half an hour—a peculiar and expressive kind of gesture language! This custom was common among the tribes of the vicinity and hence Biscatrongs cannot be considered as a real tribal name, as several tribes differing from each other, whenever they observed this custom, could be called so.⁵ The tribes of the Kouyam and Quouan we have mentioned previously. An anonymous Mexican document of 1828 states that the "Tarancahuases y Cujanos" are coast tribes scattered from the harbor of Corpus Christi (northeastward) to the bar of Colorado river. They are good fighters and often attacked

¹H. S. Thrall, *Pictorial History of Texas*; St. Louis, Mo., 1879, p. 446.

²This Caddo word is variously pronounced: háyanu, héano, há-ano, etc.; an *Indian* is: hático héano, lit. "red person," hático, átinu meaning *red*.

³Shea, *Discovery*, p. 207.

⁴Cabeça de Vaca, in Barcia, *Historiadores*, I, pp. 17, 28.

⁵For the verb *to weep, cry*, our Karankawa list has the term owiya.

St. Austin's colonists, though they were repulsed by them. Both tribes had about one hundred families as a joint population.¹ "Cujanos or Cuyanes" are mentioned long before this as inhabiting tracts in the vicinity of San Antonio (de Bejar), probably because placed there upon a mission and they must be identical with the Caoques and also with the Cokés, whom, in 1849, Bollaert declares to be a branch of the "Koronks."²

The *Cocos* mentioned by Morse and others appear to have lived in Louisiana and to belong to the Atákapa family; the Caddo term kóko, kúku means *water*; cf. the names of Coco prairie and of Anacoco in western Louisiana, Vernon Parish.

Ebahamo. What we know of this tribe has all been stated previously among the early accounts upon the Karankawa. They do not appear again in history and probably were a tribe closely affiliated to the Karankawa.

Erigoanna are referred to by Charlevoix (Nouvelle France, ed. Shea, IV, 90); they were in 1687 at war with the Bahamos or Bracamos, and figure upon the maps of the period.

The *Kironona* Indians were a tribe living about thirty leagues southwest of the Assinai or Cenís, and were seen by Joutel and others in 1686, who called them Kikanonas. According to a note in French, Hist. Coll., II, p. 11 (1875), they occupied an island or peninsula in St. Bernard's bay, which was ten miles long and five broad. Anast. Douay mentions them as neighbors of the Biskatronges or "Weepers" and calls them Kironomes. Barcia in his *Ensayo* refers to Joutel's visit among them, stating that the Kikanonas received the French in friendly manner and had their hands full of ears, thereby welcoming them to a repast. They referred to a white people in the West, cruel and treacherous, evidently alluding to the Spanish.³ Daniel Coxe, in his *Carolana*, p. 38 (1741), mentions the Kirononas as a tribe settled on the Texas coast upon a river of the same name. It will be shown below who these Kirononas really were.

The *Mayeye*, Malleyes or Mayes were a tribe who during the eighteenth and nineteenth centuries lived in the immediate vicinity of the Karankawa Indians. They are mentioned in a census

¹ Soc. Geogr. Mexic., 1870, p. 266; cf. *ibid.*, 1869, p. 504.

² Journal Ethnol. Soc., II, 265, 276 (London, 1850).

³ Cf. Marquette and Joliet. Account of the Discov., etc., in French, Hist. Coll. of La., II, 280.—Charlevoix, New France, ed. Shea, IV, 88: footnote quoting Father Anast. Douay and Abbé Cavelier.

of the Indians of Nacogdoches jurisdiction, taken in 1790: Atacapas, Mayeyes, Orcoquiza, Cocos, etc., and Dr. Sibley, in his message of 1805,¹ mentions the Mayes as living on a large creek called St. Gabriel, near the mouth of the Guadeloupe river and running into the bay of St. Bernard. They then numbered two hundred men, spoke Atakapa (?), but had a language of their own. Brackenridge's Views of Louisiana (1814), p. 87, calls them Mayeyes. Old Simon, my Tonkawē informant, said that the Méye, or Míyi, spoke a dialect of Tonkawē and lived near the Texan coast, where he saw them. That they were a people cognate to the Tonkawē is made probable by the fact, that a clan, or gens among these, is called Máye or Méyei, said to signify *dizziness*.² Villa Señor knows of the Malleyes (p. 323) as being settled upon a water-spring Las Puentecitas in the district of San Antonio and calls them pagans. Aricivita calls them Mayeyes, settled upon the San Xavier Mission, which is not identifiable with any of the mission sites now known. (Buschmann, Spuren, p. 434.)

We now come to a series of tribes which have many ethnic and linguistic particulars in common with the Karankawas. These particulars will be given in detail below and will go far to establish linguistic affinity, though only a distant one. These tribes are: (1) the bands now known under the collective name Tonkawéya, abbreviated Tonkawē; and (2) the tribes on both sides of the Lower Rio Grande. The former extent of this family is not known with accuracy. I have called it Pákawa from one of their tribes, some of whose representatives survive at the present time under the name of Pintos.

The *Tonkawē* people of Texas, now living upon the Oakland reserve in the northern parts of Indian Territory, is a conglomerate of tribal remnants closely related to each other but differing considerably in their bodily size and constitution. The language of the "old people" among them contains many terms regarded as archaic by those who speak the language of the "young people," and one of the thirteen totemic gentes of the people — (which in 1884 had dwindled to seventy-eight persons), bears the name "the genuine Tonkawē." Tonkawéya is the Wéko name of the people,

¹ Lewis and Clark, Discov., 1806, p. 72.

² Máyan signifies *terrapin* in the Tonkawē language; a tribe of "Tortugas" is mentioned in the vicinity about the middle of the eighteenth century, said to be called after a turtle-shaped hill in the tide water section of Texas.

by which they are mentioned over one hundred and sixty years ago;¹ it is said to mean "they all stay together," wéya, wé-i, wa'h, being the Caddo word for *all*. But they call *themselves* by the Tonkawē name of Títscan wátitch, *indigenous men, native Indians, or people of this country*, and observe the institutes of mother-right.

Just prior to their removal from northwestern Texas to their new homes, in September and October, 1884, I had the opportunity to study their language at Fort Griffin, on the Clear fork of Brazos river, where they had been placed after the close of the secession war. One of their old men, Simon, said that the Méye (or Mayeyes) spoke a language related to theirs and one of their traditions states that on the coast near Galveston they once met a people called Yákwai, "Drifted People," from whom they had suddenly been separated by a submergence of coast land and who spoke a dialect of their language.² In consequence of their erratic habits, the Tonkawē (abbreviated Tonks; Span. Tancaluas) people or rather portions of it have lived in almost every part of middle and southern Texas; one band is mentioned (1842) in Fayette county, southeast of the capital; one on the Wallopia river (the Guadeloupe river?) near Corpus Christi about 1847; another near Waco, in the centre of the state, on the upper course of Brazos river. They probably lived also near the Rio Grande, for many of their traditions and terms of the language point to that vicinity. The fact that certain Tonkawē terms of general and daily use are compound terms and not *short words*, as with us, seems to prove that their early home was distant from the gulf of Mexico, or from any large river or lagoon. I refer here to words like no-enshóyun, *canoe, boat*; táimai áx-kapai, *island*, the real meaning of these terms being "make float," "round and no water," *i. e.*, "dry round piece of land in the water." Neither is the term for *fish*, nishwélan, a simple word, but the causative form of a verb.³

¹La Harpe, in 1719, calls them Tancaoye, and enemies of the Cancy (Apaches); Margry, *Découv.*, VI, 277-279.

²They called *tobacco* náwetch, *tobacco pipe* náwetch wék; words belonging to the archaic dialect of Tonkawē and still understood by the people.

³The following will give some contemporaneous evidence upon the distribution of tribes in southern Texas from 1830 to 1850:

From a correspondence addressed to me by an old Texan settler, Mr. T. W. Grasmeyer, dated La Grange, Fayette Co., Texas, Aug. 17, 1878. I gather the fact that portions of the Tonkawē and Karankawas were often encamped near the spot where he stayed; the former at Matagorda, near the coast, and the latter on the Colorado river, about eighteen miles above La Grange. He had made an imperfect vocabulary of the languages of both tribes, which subsequently was lost in an overflow, and he re-

The *Paikawa*, Paikawan or Pakawá family of Indians are the aborigines living on both sides of the Lower Rio Grande, though their limit to the north and northwest is unknown. The numerous dialects of this stock were spoken in the west as far as the towering ridge of the Sierra Madre and in the east extended to or beyond the San Antonio river. One dialect of it is preserved in the Catechism of Padre Bartholome Garcia (Querétaro, 1760), who was stationed for more than twelve years in the missions of Texas and had under his special charge the Indians gathered at the mission of San Juan Capistrano,¹ about ten miles south of the city of San Antonio. On the title-page of his Catechism, which bears the title of "Manual," he does not mention the name of the language in which he wrote, but states that the questions put down by him will be understood by the tribes of the Pajalates, Orejones, Pacaos (the above Pákawa or Pintos, "tattooed"), Pacoas, Tili-jayas, Alasapas, Pausanes—and also by many others living in the missions around San Antonio and the Rio Grande; for instance, the Pacuáches, Mescales, Pampôpas, Tacâmes, Chayopines, Venados, Pamâques and by the young people of the Pihuiques, Borrados, Sanipaos and Manos de Perro. There are but a few of these tribes of which the authors give us the original habitat, but all of them dwelt between the Sierra Madre and the Medina river or the Rio San Antonio. Other dialects of Pakawá existed south of the Rio Grande, between Mier and Matamoros. Two of these survive near Las Prietas and were studied by me in 1886: the Cômecrudo and the Cotoname. The former is spoken by eight old people only who live on the southern bank of the Rio Grande, in Tamaulipas, and in many respects is exceedingly simple in its phonetics, lexicon and structure. The tribe of the Carrizos has long been extinct, but these two tribes now popularly pass under that name, because they cover their lodges with long canes (carrizos).

membered very little about the contents, except that the "Crancuas" called the horse: "Qwy," the Tonkawé "Neshawn." He also became acquainted with Lipans, Arámanos and Bidais, but never was able to discover the slightest resemblance or affinity between the languages spoken by any of these tribes. He also thought that a few of the Karankawas might still exist on Padre island, at its southern end, near the mouth of the Rio Grande. The proper wording of "Neshawn" is: nisháwaman "who is made to carry (loads)." Qwy is Span. *caballo*.

¹H. H. Bancroft, Hist. of North Mex. States, I, 633 (whole Vol. XV), gives the following particulars: this mission was in 1731 transferred from the Nazones (a Caddo tribe) to its later position and numbered fifty-eight Indians in 1785, thirty-four in 1793. The Census Report for 1814 in the Texas State Archives, Document No. 342, gives sixty-five Indians.

Orozco y Berra and his sources mention other tribes which lived in the same parts and must have spoken cognate languages. Of the languages of southern Tamaulipas nothing is known except a specimen of Maratino, which is too corrupt in its text and too short to furnish any reliable linguistic data.¹

The Indians of the *Atácapa* family of Louisiana consisted of coast and fisher tribes like those of the Karankawa and their language is reported as spoken formerly in parts of Texas. This fact becomes somewhat doubtful on account of the generic signification of the name, which is the Cha'hta term for *man-eater* and could therefore, like that of Chichimecas, Diggers, Orejones, Tapuyos, Patagones, etc., be applied to many tribes simultaneously. Only a small part of Texas, east of Houston city and Neches river, could have harbored Indians of the same nation which spoke the dialects once heard upon the Bayou Tèche, the Mermentáu, Calcasieu and Sabine rivers of Louisiana.

Páni tribes on the Gulf coast. In prehistoric times the nation of the *Assinai*, now better known as Caddo (from one of their branches) must have diverged from the Páni proper, the Wichita, the Kichai and the Wē'ko (Span. Hueco), though nobody can tell the directions of the compass which were followed by these peoples when the segmentation took place. At the dawn of history we find the Assinai in the centre of what is now Texas, and they appear to have had their densest settlements upon Trinity river. They are the Cenís, Cenys, Asinays, Assénis of the French explorers. The *Bidai* (Span. Vidais, Vidayos) appear to have lived in the same tracts and to have also extended further south; they passed for a branch of the Assinai (which means *man*, *Indian* in Caddo) in early times. The name bidai, *shrub*, *bush*, belongs to Caddo dialects, and from the six first numerals, the only Bidai terms I was able to obtain, I infer that they belong to a Caddo dialect, because *like the adjectives* of that language they all begin in na—,² Another tribe probably related to the Assinai, the

¹ Cf. Alex. Prieto, "Tamaulipas," 1873. Pimentel, Cuadro, Vol. III.

² Mr. Rufus Grimes of Navasota, Grimes Co., Texas, writes under date of Nov. 15, 1887, that the "Bedias" once occupied the above and four of the adjoining counties. About five hundred of them existed in 1826, and they remembered wars which their forefathers had with the Comanches. From remembrance he put down the following numerals: 1, namah; 2, nahonde; 3, naheestah; 4, nashirimah; 5, nahot nahonde; 6, nashees nahonde. Of the numerals from 7 to 10 nothing was remembered except n—, which was their initial sound. Púskus meant *boy* and tándshai *matze*.

Orcoquizac, was settled near the coast, and a Spanish-Mexican guar-
rison and mission was established among them at a later epoch.
This was San Agustin de Ahumada or Horcaquisac presidio, upon
an ancient ford of the Lower Trinidad river, and it existed from
1756 to 1772.¹ These Indians are variously called Arkokisa, Accon-
cesaws, Orcoquizas, Horcaquisaes, etc.; el puerto de Orcoquisac,
with two hundred soldiers in 1805 (Tex. St. Arch., Doc. No. 538),
and for some time Lower Trinidad river itself was called Arkokisa.
Some are also mentioned as an agricultural tribe upon the San
Jacinto river. Of the racial affinity and language of these Indians
nothing is known and their Caddo affinity is merely a guess. Their
tribal name, however, is undoubtedly from the Caddo language
and was pronounced Akánkisa. Its signification is not certain,
but it has something to do with *passing* or *crossing* (the river) and
occurs in the word for *noon*, when the sun passes the noon-point:
káditi tayiskánkisa, *noon* (káditi, kaháditi = *in the middle, half*).
But the historical people of the Tejas or Texas, from which the
state obtained its name, was certainly related to the Assinai, and
according to Villa Señor the province "de los Texas" was also called
"de los Senis" (p. 328). Los tecos, Lastecas, Tachies and other
earlier forms of the name have often been the subject of etymo-
logic attempts, but no author found the correct explanation, be-
cause none was acquainted with the dialects of the Assinai or
Caddo language. Tek, tēk, tik, the term for *people, man, some-
body*, in the Yátassi and Nabaidátche dialect, is the original form
of the name Texas, which appears historically in so many different
modes of spelling.

Of the intrusive, non-indigenous families of Texas the *Tinné* or
Athapaskan is the most conspicuous. The family of the Tinné is
indigenous to the country north of the Saskatchewan river and that
portion which came as far south as Texas and New Mexico is of

¹H. H. Bancroft, l. l. xv, p. 633 (Note). Cf. p. 630: "an order was issued in 1772
to suppress the presidios of Los Adaes (Pilar) and Horcaquisac (San Agustin); . . .
these orders were carried out immediately by Ripperdá . . . and the northern dis-
trict thus was practically given up to the savages." In 1755 fifty Tlascaltec families
had been brought to this presidio.—(*Ibid.*, p. 625).

In the Texas Archives there is a document of Aug. 26, 1756, containing an *Order* to
select a site for a mission and settlement of fifty families: "de este ojo l'agua pasa à la
rancheria de Calzones Colorados, capitan de la dicha rancheria y de nacion Horco-
quisa."

a particularly ferocious type. The *Lipans* were in the eighteenth century settled in two regions on the Rio Grande, as pointed out previously; nowadays about fifty of them, with Kickapoos, live in the Santa Rosa mountains, from which they stroll about making inroads into the vicinity to steal horses and cattle. Others serve as scouts in the Texan forts which are garrisoned by the United States army. In April, 1757, a presidio and a mission were established for the Lipans and *Apaches* on the San Saba river, but eleven months later the mission was destroyed by several thousand Indians who arrived under the command of a Comanche chief. The Apaches were then provided with missions in 1761 and 1762 at San Lorenzo and at Candelaria (perhaps on the Upper San Antonio river), but in 1767 these missions were abandoned by order of the viceroy.¹ The presidio at San Saba existed till 1772. To what special tribe these Apaches belonged is not known, though raids of Mescalero-Apaches into Texas occurred in the eighteenth century. The Apaches were also known to the Texan Indians as Cances (misspelt, Carrees), which is the appellation given them by the Cad-dos: Kántsi, "deceivers, traitors." On Jefferys' Atlas of 1776 the nations of the Kaikaches and the Kanaches, the latter being the "Kántsi" or Apaches, are marked as southwest of St. Bernard (or St. Louis) bay, down to the Rio Bravo del Norte.

The *Comanche* people is the only branch of the Shoshonian stock of the great interior basin which has pushed its raiding expeditions so far south as to reach the coast. They are in fact a branch of the eastern Shoshoni or Snake Indians, now in Wyoming Territory and vicinity, and a Comanche division is still called after that national body (Póhoi). Comanche warfare in Texas and Old Mexico is recorded as far back as the first half of the eighteenth century, and if the Choumans of the French chroniclers should be identical with this people, as some believe, raids of this warlike tribe would be recorded even for the end of the seventeenth. The Comanches consist of more than fourteen subdivisions, which in earlier times never lived together, but were often separated by thousands of miles. Of these the Kwaháda, or "Antelope" Comanches passed for the most warlike, that of the Penetéthka or "Honey-Eaters" for the most populous.² The Káyowê Indians

¹H. H. Bancroft, *l. l.* xv, 626-629.

²Com. péni, pini, *sweet*; *sugar*, *honey*; téthka, in other Shosh. dialects, teka, reka, ríka, *to eat*, or, *one eating*, *those who eat*. They fed upon the honey of wasps.

were their associates on war-expeditions for centuries, and with these we find as constant companions a small tribe of Apaches, who call themselves Ná-isha and whose dialect has a considerably close affinity with that of the Mescalero-Apache of New Mexico. Many Comanches were placed upon the mission of the San Saba river, a western affluent of Upper Colorado river. This vicinity afterwards became a sort of headquarters for all the war parties of the Comanches, and from there many incursions were made into Chihuahua, Coahuila and to the coast of Texas, like those of 1840 and 1843. A document (No. 1156) of the Texas archives, dated 1832, speaks of oriental and occidental Comanches and records incursions of theirs into Mexico for that year. The Tónkawē people lived for a while on the same reservation with these Indians, on the Brazos river, and remember them, especially the Kwaháda, with terror. The Karankawas, though warlike, were greatly afraid of their raids, which in 1840 and 1843 were directed into the heart of the Karankawa country. They also visited the mouth of the Rio Grande, scourging that country everywhere, and were known to the Comecrudos as Selakampóm papí. Comanche is pronounced by them "Kumä'tsi, Kumä'ntsi," a name which was given to them by the white population of Mexico; they call themselves Né-ume, the "people."

III. TRIBAL SYNONYMY OF THE KARANKAWAS.

SIMON, an old Tonkawē man, pronounced the name of this people: Karámkawa, which comes very near to the French form Clamcoët. In this last form the final *t* is only graphic sign and not pronounced; so we have: klam-koe. It also agrees closely with Korenkake, perhaps misspelt for Korenkahe, for the names of these French lists are not to be relied on in their orthography. The second syllable of Karankawa is the accented one.

Besides these forms which we may regard as the most complete and correct ones in their spelling, the name is also rendered in the following ways:

Spanish authors: Carancagnaces, Carancahuazes, Carancahuases, Carancahuas, Caranchuhuas, Carancowasos.

American and English authors: Caranhouas, Carankahuas, Carankawaes, Carankoways, Carankouas, Charankoua, Corankoua, Coran-canas, Coronkawa, Crancuas, Karankaways, Karankoas, Karan-koo-as, Koronks (or Coronks). The form Caranchua is justifiable only when the *c* and the *h* are pronounced with an hiatus intervening.

French authors: Carancouas, Carankouas, Carankonas, Clamcoëts, Koïenkahe.

The majority of American tribal names now in use were given to the respective tribes by neighboring Indians, whereas each tribe calls itself simply: *men, people, bodies, Indians, indigenous or native people, genuine people* and other forms of such general import. This was also the case with the Karankawa Indians, who obtained their name from a cognate people, dwelling south of them, who called the *dog* by the term klam, glám. In the Comecrudo language the *dog* is called so and formerly this was also the term for *animal* or *quadruped*. The Karankawa and Shetimasha call the *dog*: kiss,¹ and the Cotoname has kissá for *fox*. The second portion of the name is kawa, *to love, to like, to be fond of*, or when a

¹In Shetimasha of Southern Louisiana kish is *dog*, and kish altn, *horse*, viz., "large dog." This shows that kish was originally the term for *animal*, or *living being*.

plural of the object is referred to, kakáwa. Thus Karankawa means *dog-lovers*, *dog-raisers*, and this refers to the fact, reported by Mrs. Oliver as well as by an author of the seventeenth century, that these Indians *kept dogs*, which were of a fox-like or coyote-like race. It is possible that the plural form kakáwa is preserved in the name Korenkake. Kawa also reappears in the Karankawa language itself, where ka means *to love*, *to like*.

It is of importance to know that the tribe called themselves by this same name Karankawa; for thus we are entitled to assume that they understood this appellation, and did not object to apply it to themselves, though it belonged to another language.

With others I think that the name of the Kirononas or Kikanonas, a tribe living in the very districts held by the Karankawas, is but an orthographic distortion and misspelling of the name Karankawa.

With a change of the second part, the same name is contained in *Quélancouchis*, a tribe assigned to the same localities also. They are mentioned in Margry, *Déc. IV*, 316, about 1699; as Quelamoueches in Delisle's map, in J. Winsor, *Hist. Amer.*, II, 294; as Quelanhubeches in 1689; Barcia, *Ensayo*, p. 294; Shea, *Discov.*, p. 208 (note); Shea, *Early Voyages* (1861), p. 21, note. The second portion apparently represents one and the same word differently written, but I am unable to tell the signification of this second component.

The names by which other tribes called them remain to be considered. The Tonkawē called them *Wrestlers* from this manly art in which they excelled: Kéles or Kílis.¹ They also named them Yákokon kapá-i, "barefooted," "without moccasins,"² an appellation which they applied as well to the Bidai and to some tribes on the lower Rio Grande.³

The Lipan-Apaches called the Karankawa: *people who walk in the water*, Nda kun dadéhe;⁴ this evidently refers to their peculiar mode of fishing and turtle-catching, as described by Mrs. Oliver.

The Comecrudo Indians called them Estók Karanguás (estók, *people*, *Indians*), and for a while they were known in these districts as Tampacuás; cf. below.

¹ In Tonkawēsháya eklen, *I am wrestling*; kétai ékélō! *wrestle with me!*

² Yákokon, *moccasin*; kápa-i, *not having*.

³ As to the custom of walking barefooted, it will be noticed that a division of the Comanche people is now called Ketá'htone, "never wearing moccasins."

⁴ Nda, *people*; kun, *water*; dadéhe, *walking*, in Lipan-Apache.

IV. THE KARANKAWA NATION AFTER 1835; ITS DECLINE AND EXTINCTION.

*Dura post paullo fugies inaudax
prælia raptor.*

BEFORE starting upon the narrative of the events which finally brought about the extinction of the nation which here occupies our attention, let us cast a glance upon the former historic facts in order to compass the extent of territory occupied by this people when still in its native, flourishing condition.

HABITAT OF THE NATION.

A promontory of the mainland in the West bay, fifteen miles southwest of Galveston city, Galveston county, is called "Caronkaway point" to this day. This was one of their fishing and stopping stations and also formed one end of the shallow ford which allowed them to cross over to the sand bar opposite in good weather. By this ford a party of theirs escaped at night when attacked by Lafitte's men in 1818. This point is the easternmost place in their possession which I have been able to discover. It explains their vicinity to the Atákapa tribe and the adoption of that language by a part of the Karankawa nation (as referred to by Dr. Sibley), who continued speaking their own language besides. The extensive shores of the neighboring Galveston bay were probably visited by them also, and Morse (1822) heard of some living upon San Jacinto river.

We know that west of these the Karankawas held or claimed both sides of the mouth of Colorado river, Texas, and the map in Yokum's History of Texas (1856) has placed them there correctly. One of their main points of repair was undoubtedly the bay of Matagorda, its northern inlets, as Trespalacios bay, and its western part, also called La Vaca bay.¹ Further west they lived upon the bays of Aransas, Espiritu Santo and Kopano, on the out-

¹ La Vaca river or "Cow river" was called so by R. C. de la Salle, on account of the herds of buffaloes seen there.

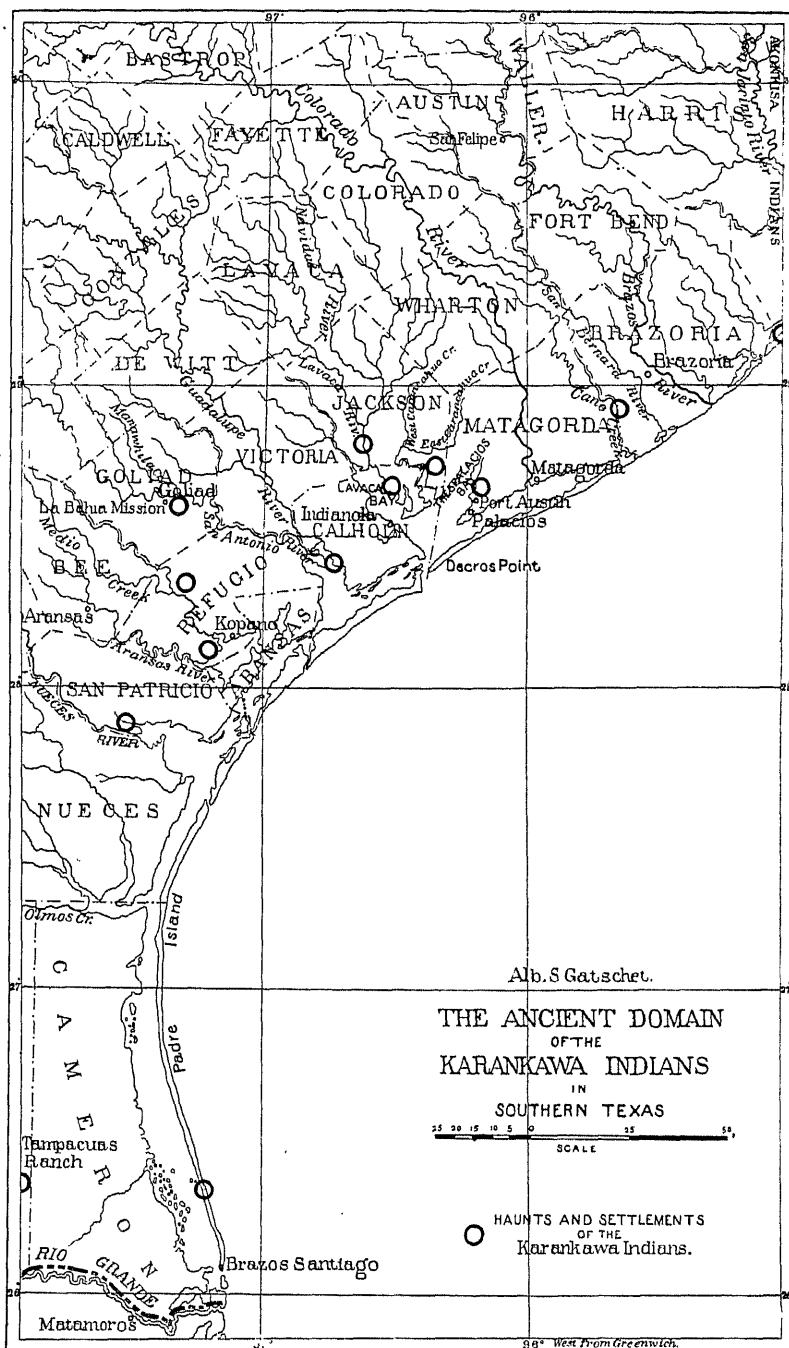
let of the rivers there and of Nueces (or Pekan Nut) river, on both sides of the Laguna Madre down to Brazos Santiago, a place at the southern end of the sandbar, called Isla del Padre.¹ They regarded the tide-water portions of the Texan rivers as their hunting grounds, but probably did not occupy them for any long season of the year. They appear to have inhabited the coast exclusively. They once inhabited Refugio and La Bahía in the interior, but did so only because they had been compelled by the missionaries and their armed forces to settle upon these missions. But the littoral districts, south of these places, around Kopano, were points of attraction to them, where they congregated in numbers, especially in the fishing season. They wandered in bands of thirty to forty people and remained perhaps four weeks at one place, generally where there was fresh water and firewood, to reappear there again after an absence of about three months.

Their former presence in the interior parts of southwestern Texas is marked by the course of Taroncagua creek (false for Karoncagua), an affluent of Pintos creek and San Fernando river; it runs from northwest to southeast through Duval county, about Lat. 28°.

THE DOWNFALL OF THE NATION.

The previous chapter on Karankawa history has shown the circumstances that were threatening not only the independence, but the very existence of this littoral nation. As long as the Mexicans had control of Texas, they were allowed to go their own ways; for the easy-going colonists did not exclude them from their lands, which they claimed probably for no other use than for horse and cattle-pastures. But with the arrival of the more active Anglo-American race all this underwent a change. The more enterprising among the latter obtained "headrights" or land grants from the Mexican authorities, stocked them, set out orchards, ploughed and sowed the agricultural lands, and built houses, towns, fences and roads. The fertility of the coast tracts attracted settlers in ever increasing numbers, and Indian depredations could no longer be tolerated. The clandestine larcenies and murderous attacks of the Karankawas had to cease as well as the open robberies and truculent raids of the Comanches and their savage allies. Thus we may say that the destiny of the Karankawas was sealed through the increase of the Amer-

¹ Upon the northern end of Padre Island they knew of a ford to cross over to the mainland, similar to the one described under "Caronkaway Point." It was over fifteen miles long.



ican population in the Texan districts bordering upon the gulf of Mexico.

The heaviest blow that fell upon the Karankawa Indians was their flight to the La Bahía Mission after experiencing several defeats at the hands of Texan volunteers. If we are correctly informed, this event occurred in 1825, but we do not know how large a proportion of these Indians was affected by this surrender or compromise.

It appears, however, that the remnants of these Indians after this event were constantly wavering between the influence of the Americans and that of the Mexicans, and that the Indians were hated by both parties. *Two chiefs* are mentioned at this epoch: José María, killed by the Mexicans during the war of Texan independence, and his brother Antonio, who succeeded him and was married to a woman of Comanche origin. Chieftainship was hereditary in the male line, and had the son of José María not been killed by the Mexicans, he would have succeeded his father.

Concerning this chief I take the opportunity to publish the following letter sent by an old Texas settler, A. B. Gyle, to Mrs. Alice Oliver, dated Trespalacios, September 27, 1882. This missive furnishes the proof that these Indians were not always harshly treated by the colonists, and it also gives an insight into the condition of affairs then (before 1830) prevailing upon the coast. I reproduce also the orthography of the letter (which is written in a regular hand), so as not to deprive it of its local color.

"Friend, . . . In regards to the Indians you ask about, the most of the old settlers have died since you left here and it is a hard matter to learn much about them; in the first settling of Texas, the old settlers told us, they were quite a large tribe of Indians here, and knowing they were always at war with the other tribes and whites, they were reduced down to a very small band when I first knew them. I will relate a story that an old settler of Caney told me not long since. When she was but a child, they lived at the afore said place and the Indians were camped on lower Caney and were then hostile. her Father Mr Hunter took this opportunity to make a treaty with them, being a very long cold spell of wether — he knew that the Indians would be suffering — so Mr Hunter took his wagon and loaded it with corn, potatoes and pumkins. and took his rifle and kill two or three deer as he went along, and proceeded to the camp; as the Indians heard them aproaching they mustered to arms, thinking the whites were a going to make an atact on them, Mr Hunter rode a

horse back on a head of his wagon. and waved a white hankerchief, and cried *megus — megus — muncher megus*,¹ then Hozzie Merear the Chief, laid down his bow and arrow, and came to him, when Mr Hunter told him what he wanted. The treaty was made and never broken by them, he assured them that he are any of his family should never be molested by them. Years afterwards the Indians were camped on the Trespalacios bay, the Chief took several of the Indians with him. and proceeded up the Trespalacios River, when he came to her stepfathers Mr Lacy; there they saw her and recognized her as Mr Hunters daughter, he asked where Mr Hunter was, and she told him that he had been dead for several years, and he sighed, and said the best friend to poor Indian was gone, then he returned to his canoes and proceeded down the river, and that she said was the last she saw of old Hozzie Merear.

I will have to close. as we are in great haste, preparing to leave this lower cuntry. I do not know any thing concerning the Indians myself and my brother Clements memry is so very bad from old age he has forgotten all he knew about them."

Chief José Maria, whose Indian name is unknown to us, was at that time regarded by the colonists as a bellicose, daring and blood-thirsty man. During the war of Texan independence his son Walúpe (Span. Guadalupe) had been captured by the Mexicans and in spite of his youth (he was but nineteen years old) they put him to death. The infuriated father then came with about twenty warriors on board of Mr. Bridges' vessel to announce to him that bloody revenge would be taken upon the Mexicans for the deed. But in their attack upon the enemy the Indians were routed, and the chief with almost all his men killed by the Mexicans.

A man named Antonio, who passed for José Maria's brother, succeeded him in the chieftaincy. Mrs. Oliver became acquainted with him and his Comanche wife after 1839, and on that occasion he showed much tenderness for his children, who had fallen sick. He was killed by an accident. During his life and after his death the tribe diminished rapidly through consumption and other distempers, and also through frequent brawls caused by intoxication.

E. Kriwitz, whose article upon the Texas tribes was published in 1851, but was composed much earlier, knew of ten or twelve Karankawa families of poor fishers, who then lived upon Aransas

¹Spanish words: "amigos, amigos, mucho amigos," *friends, good friends!*

bay and Nueces river.¹ Mühlenpfordt, d. Freistaat Texas, p. 120, states that on account of the paucity of the Indians of the coast, two French missionaries, Odin and Estany, made endeavors in 1842 to unite the remnants of the Karankawa with those of other tribes into a mission. Perhaps this, in connection with the report that a priest brought some of that tribe to Isla del Padre to educate and protect them there from the revengeful blows of the colonists, started the rumor that all Karankawas left the mainland of Texas at that time.

The following occurrence is sufficiently substantiated by contemporaneous evidence to be regarded as true. Some of the tribe were encamped near Kemper's bluff on the Guadalupe river, fifteen miles south of Victoria, the Kemper family being then the only whites living near that camp. One day three or four Karankawas demanded of Mr. Kemper a beef which he had just killed. He threatened to shoot them if they did not vacate his premises. Then one of the Indians shot an arrow at Kemper, which caused his death within a few hours. The Indians, anticipating an attack, fled down the Guadalupe river in their canoes and coasted along the shores to the mouth of the Rio Grande, passing over to Isla del Padre. John Henry Brown, an old Texan settler now residing in Dallas, states that the murder of Mr. Kemper took place in November, 1844, and that after this these Indians were never seen east of Aransas river again,² but is wrong when he states that "they became entirely extinct upon the lower Rio Grande and on Padre island in 1845 or 1846."

Another report of a contemporary states that about 1843 the remnant of the Karankawa tribe, about forty or fifty people, applied to the Mexican government for permission to settle south of the Rio Grande and this having been granted, emigrated to these parts. (Baker, D. W. C. Texas Scrap Book, 1875.)

It appears that the Karankawas who fled into Mexico about that time consisted of two bodies. One settled upon Padre island, probably its southern end, and the reports upon their fate or extinction are sensational³ and conflicting; the other went directly into Tam-a-ulipas, and the following piece is an extract of the *Reports of the*

¹ In Berghaus' *geograph. Zeitschrift*; cf. Buschmann, *Spuren*, p. 429.

² Correspondence with B. W. Austin, Dallas, Feb. 11, 1889.

³ Cf. Reid, Sam. C., jr., *MacCulloch's Texas Rangers in 1846*, Phila., 1847, illustr., p. 46.

*Mexican Border Commission*¹ upon this subject, which was the result of the investigations concluded at Reynosa, Tamaulipas, on Dec. 10, 1872 (pp. 404-407):

"The Carancahuases, Indians from Texas, were mentioned at Reynosa by some witnesses who in 1872 testified that this tribe had been driven into Mexico by American troops since 1848, and had obtained an asylum. In 1688 this tribe lived on the bay of Espiritu Santo, where it was found by the governor of Coahuila, Don Alonso de Leon, when, by order of the Viceroy of Mexico, he marched with troops to that point to drive away the French, who had gained a footing there. It was found that these Frenchmen had already been massacred by the Carancahuases, who remained in the same region even after the colonization of Texas by Don José Valdivieso, Marquis of San Miguel de Aguayo, who, in 1719, penetrated as far as Red river, boundary between Texas and Louisiana. The colony brought soon after by the marquis from the Canary islands did not disturb these Carancahuases, otherwise called Tampacuases.

"These Indians, few in number when Texas ceased to belong to Mexico, were driven thence, and were, in 1852, located within the jurisdiction of Reynosa at 'La Mesa' and other points. Yielding to the habits of their vagabond life, they soon manifested their inclination to plunder, obliging the authorities of that town to organize troops, and reduce them to order. General Avalos interfered in the case by virtue of instructions from the general government, took them under his protection, and removed them to the center of Tamaulipas, not far from Burgos. There they gave occasion to dispute between the government of Nuevo Leon and Tamaulipas, which led to their being carried to their former place of residence near Reynosa. Being again attacked on account of robberies, the tribe removed to Texas, and on the 26th of October, 1858, the judge of Rosario sent the following report to the mayor of Reynosa:

"In pursuance of your orders of the 23d instant, for the arrest of the Carancahuases, I took measures for that purpose, but finding that they are now on the left bank of the Rio Grande, beyond the limits of my authority, at the place called "Uresteña," I informed the authorities at Rosario and Bañon, to the end that they on the American side and we on this side may combine for their

¹ "Translated from the official edition made in Mexico," and printed in New York 1875, 8vo., pp. 443.

arrest, since, besides the horses they have carried off, they have committed other robberies at La Mesa. With the inhabitants of this district, I have explored all this region in their pursuit.'

"The history of these Indians terminates with an attack made upon them in the said year, 1858, by Juan Nepomuceno Cortina, then a citizen of Texas, along with other rancheros, when they were surprised at their hiding place in Texas, and were exterminated.

"These Carancahuases were undoubtedly the 'other Indians' referred to by the American commission in connection with the Lipans, Kickapoos, Seminoles and Carrizos.¹ They were the only ones known in Tamaulipas of whom information could be had at Brownsville and the accuracy of such information may now be readily inferred."

That the Karankawas were called there Tampacuás is possible, because their remnants had settled at the place so called, which now exists as a rancheria in the southernmost part of Texas, Hidalgo county, about twenty miles north of Rio Grande. The name signifies "place of Pakawás," and points to the fact that it had been a settlement of the Pakawa, Pakawá or Pinto ("Tattooed") tribe, which is mentioned among other cognate tribes upon the title page of Garcia's *Manual* (1760). That they were congeners of the Karankawas also, is very probable from what will be mentioned below. It is rather natural that when the Karankawa had to quit their own country, they took refuge with a people related to them, and they were themselves *tattooed also*; not only in the face, but on other parts of the body besides, and so they could possibly be called by that name as well.

The man from whom I obtained a Cotoname vocabulary faintly remembered their stay in the country, and called them *xaíma Aranguás*, *Arangua Indians*, and *Indios por aquí*. He thought that some may be still in existence, but could not tell where.

¹ All of these and "other tribes" were said to have committed depredations lately, having been sheltered in Coahuila and Chihuahua, and enabled thereby to invade Texas with impunity. But the investigations of the Commission have shown that the Carrizos and Carancahuas were extinct since 1858 and the other tribes had not depredated that vicinity for many years past.

V. ETHNOGRAPHIC SKETCH OF THE KARANKAWA INDIANS.

THROUGH the personal presence of my informant among the Karankawa Indians our knowledge of their manners, customs and ethnic peculiarities has become much more accurate and extensive than our knowledge of their tribal *history* will ever be. Certainly there are many gaps left concerning the mode of life, tribal government and religion of their littoral tribes, but now we have at least some points to hold on and these may become more fully substantiated by researches on their language.

The ethnographic material now on hand I have subdivided into two parts. One of these will consider the nation from its *physical* or natural side (bodily constitution, food, implements, dress, etc.) ; the second section describes its *mental aspects* (government, customs, religion, etc.). The whole is preceded by a few words on the country and its climate, for these are at the foundation of every ethnographic peculiarity.

THE COUNTRY AND ITS CLIMATE.

The *tide-water section* of Texas inhabited by the Karankawas presents but little variation in its configuration. The shore line from Galveston to the Rio Grande is formed throughout by sand bars with narrow openings between, except upon the short stretch from the mouth of Oyster creek and Brazos river to Caney creek, where the mainland borders immediately upon the waters of the Gulf of Mexico. By these sand bars the mouths of the Texan rivers are protected from clogging, and to some extent also from the furious tempests blowing from the Gulf side. The quiet waters of the lagoons, closed in between the mainland and the sand bars, make it possible to catch fish, oysters and turtles at almost any season of the year and enabled the Indians to start out upon their *mariscadas* at regular periods. The shore line was partly wooded, especially along the river courses, and therefore gave shelter to large numbers of game, of which the supply was almost inexhaustible. Other portions of the shore were prairie lands, studded with prickly pears, fragrant weeds and flowers, and in de la Salle's time, and probably up into the nineteenth century, the buffalo was seen in herds upon the coast.

The *geological* feature of the coast line consists, according to the Texas map of A. R. Roessler and M. v. Mittendorfer, 1874, of the following formations: From Sabine river to Carancahua bay in Jackson county, of red alluvial loam mixed with sand. From Carancahua bay to the Mission river and Rio Medio, its affluent in Refugio county, of a dark clayey prairie soil of good agricultural qualities. From there southward to the Rio Grande of a calcareous loam, forming the best of pasture lands. At distances varying from thirty to over one hundred miles from the coast there are oval tracts of land called hogwallows running parallel to the coast line. This name was given them on account of the unevenness of the surface, caused by cracks during drought; they consist of black tenacious clay slightly mixed with vegetable mould.

The *coast lagoons* are shallow and the water so low that in many of them people may wade out for a mile without losing ground. The large or dangerous fish and mollusks do not come very near the beach and this enabled the Indians to walk far out into the water to shoot the fish with their arrows. It is a remarkable fact that most of these lagoons have a triangular shape; the base is formed by a line forming the continuation of a river entering the bay, the second side by the sand bar and the third irregular one by a series of inlets and the mouths of smaller rivers, bayous and creeks. The lagoons as they follow each other from east to west are called as follows: (1) Galveston bay with its subdivisions: East bay, Trinity bay with Turtle bay, Clear lake, Dollar bay, West bay and Oyster bay. (2) Matagorda bay with its subdivisions: Oyster lake, Trespalacios bay, Carancahua bay, Lavaca bay. (3) Espiritu Santo bay, with its northern extension, called San Antonio bay. (4) Aransas bay with its subdivisions: St. Charles bay, Copano, Mission and Fuerte bay. (5) Corpus Christi bay with Nueces bay. (6) Laguna de la Madre with Salt lagoon.

We may assume with a fair degree of certainty that these lagoons with all their sidewaters were once the haunts of the skilful fishermen and intrepid hunters of the coast tribe which occupies our attention.

The Indians who spoke the dialect of Karankawa transmitted by Mrs. Oliver had their principal haunts along the shores of Matagorda bay, formerly St. Bernard bay, and her father's house, with his Mexican land-grant of one square league, lay in the midst of the resorts most frequented by them. It was built upon the beach at Port

Austin, at the entrance of Trespalacios bay, one and one-half miles from Trespalacios and about eighteen miles (by water) east of Decros House at Decros point, which forms the western end of the Matagorda peninsula or sand bar. Port Austin was at a distance of twenty-five miles from Matagorda city, the lower course of the Colorado river intervening between the two places. The nearest settlers lived at a distance of fifteen miles, and at Palacios there were then not over four houses. At Carancalhua bay there was a tract called Carancalhua Land, but these Indians did not stop there any more than they did at any other place. From 1840 to 1850 there were only two American settlers there. On the opposite side of the bay, Linville, destroyed in 1848 by the Comanches, lay a few miles above the site of the present Indianola, then called Indian point. In winter these Indians were in the habit of staying in the woods on the Colorado river and at Caney creek, because it was warmer there, and there they could gather pecan-nuts and hunt bears. In summer the fertile tracts on the Caney are unbearably hot and unhealthy, the woods producing fevers. The surface of the creek is always covered with a green film, which the settlers utilize for manuring their sugar and cotton plantations.

The bleak shores of Matagorda peninsula, consisting of sand and sand hills, yielded much wreckage that was floated ashore. Decros point, which lies upon the Pass Cavallo, was since January 1851 enlivened by becoming a halting place for the steamer-line of Harris and Morgan plying between Texas ports and New Orleans.

Around Port Austin the soil was filled with little lumps of pumice-stone, some of the pieces being as large as a man's head. Marine shells lie all over the prairie, as far as six miles inland, but on the surface only. A petrified log was also found there. Dr. Sibley mentions a "bluff" upon an "island or peninsula occupied by Karankawas, containing a combustible substance, which had then been on fire for several years, emitting smoke and shining at night into great distances. From this burning ledge particles are detached by the action of the waves and a substance like gum or pitch is thrown ashore, which is called *cheta* by the Spanish people. The Indians are fond of masticating it." Mrs. Oliver stated that asphaltum was often washed ashore and used by the Indians for black paint after mixing it with oil; but where that "burning hill" was, is uncertain.

There were many mounds in the prairie, looking like graves and always over ten feet apart. Nothing was found in them, but they seemed made by man and not nature's products.

Salt deposits were to be found in the neighborhood, which were conspicuous on the shore by the lack of grass and vegetation. They originated by the floods breaking over the shores and leaving deposits of salt. The Indians made no use of the salt, as they preferred chile to season their food.

The climate of the coast is much cooler than that of the interior of Texas, which often becomes unbearably hot where the country is bare of trees or underbrush. This result is produced by the gulf breeze which every afternoon begins to blow from south to north from about three o'clock until after dusk. This gulf breeze is sweeping the country almost up to the middle course of Red river, which forms the northern boundary of Texas. Sudden squalls are not unfrequent upon the coast lagoons, and hurricanes are rare but very destructive when they occur. In 1853 or 1854 a terrible **tornado** dismantled and destroyed the house where my informant lived, and killed cattle in large numbers by driving them into the waters of the bay. Scarcely could the inmates save their own lives, as the wind blew furiously during a whole night. The *northers* are heavy periodical winds blowing from the north and northwest and sweeping the whole interior of Texas and of Mexico from the Louisiana border to Tampico. They check the growth of vegetation and are much dreaded by the population. In Matamoros the *northers* are blowing thirty-seven days in the year for an average.

The *fauna* and the *flora* of the Texan coast have been too often described by naturalists and travellers to need repetition. It will suffice to recall a few facts concerning both.

Herds of buffaloes came down to the coast in de la Salle's time and probably much later. Prairie-wolves were frequent on Matagorda bay as late as 1850; they fed chiefly on fawns but, when these were scarce they became desperate and attacked other animals and, when united in packs, were even dangerous to man. Deer were so plentiful that some could be shot from the windows of the settlers' houses.

Many birds of brilliant plumage lived in the prairie, but few songsters. Water-fowl, such as brants, geese and ducks were plentiful. Wild turkeys were common in the woods. The turkey-buzzards were regarded as useful birds and never killed by the Indian

population. The fish and amphibians are mentioned elsewhere (in Mr. Hammond's article). The octopus, or squid, did not come so near the shores of the lagoons as to endanger the lives of the coast Indians, who passed their lives more upon the water than on terra firma. The *manta*, or "blanket-fish,"¹ prefers deep waters and does not trouble the fishing population to any degree.

The *vegetation* around the coast lagoons mostly consists of weeds and flowers, as but a small part of these regions is wooded. Grease-wood, however, is frequent. A great variety of flowers embellished these prairies in spring and summer. As early as February the prairies around Trespalacios bay appear so full of white flowers, that the green grass can no longer be seen among them; in March everything appears red from a profusion of red geraniums, with a glutinous sap. In May the colors become more variegated, and blue rivals with white, pink and yellow-colored flowers, while in the autumn purple and yellow will predominate. In places where the grass is removed, a species of daffodil opens its petals after dusk. All these prairie growths were often destroyed by ravaging prairie-fires; when these became dangerous by approaching the camps and settlements, the Indians and whites fought them by slapping the fire with brushwood. Nevertheless houses were sometimes destroyed by their fury.

PHYSICAL CHARACTER.

The appearance of the Karankawa men and women can now only be described from the impression it made on persons who lived in their country, as we have no accurate anthropologic data or measurements to determine it scientifically.

All witnesses from earlier and later epochs are unanimous in describing their *men* as very tall, magnificently formed, strongly built and approaching perfection in their bodily proportions. Many southerners regarded them as giants, and Mrs. Oliver ventured the opinion that they measured about five feet and ten inches.² No

¹ This large fish, *Cephaloptera manta*, Bancroft, is described in Jordan and Gilbert, Bull. of U. S. Museum, 1882, p. 52, and in Zoolog. Journal, 1828-1829; IV, 444.

² A committee on anthropometry was appointed in 1875 by the British Association for the Advancement of Science, which has published the results of measurements of various nations and tribes of all parts of the globe since 1878. On the stature of persons we find the following statement:

| | | | | |
|----------------------------|-------|-------|------|----------|
| Samoaans | meter | 1.853 | feet | 5, 10 97 |
| Polynesians in general | | 1.762 | | 5, 9.33 |
| English professional class | | 1.737 | | 5, 9.14 |

skeletons or skulls are known to exist, which could give a decisive proof of this statement. Their hair was as coarse as that of horses, and perhaps owing to their being bareheaded, it often assumed a reddish hue. They were not prognathic nor showed they more than ordinary Indian proportions in their cheekbones or in the thyroid cartilage (Adam's apple); but their foreheads were mostly low and broad, and the heads larger than those of the Anglo-American race. All had splendid white teeth, even in their older years.

A considerable difference was perceptible between the deportment of males and that of females. That of the men was, even when their bodies were of a heavy exterior, free, lithe and graceful. Their complexion was rather light-colored than of the cinnamon hue, since they ate more venison than fish. Although their jaws looked heavy, their chin was small and their lips thin, which agreed well with the long and slender hands and feet observed in many individuals. In some cases, the fingers tapered off most gracefully and ended in delicate-looking nails, the palm of the hand showing no callosities. Many men wore the hair so long as to reach the waist, and while sitting on their mats of skins they were in the habit of crossing the legs.

The exterior of the *women* was in many respects just the reverse of their male companions. Weighted down by the drudgery of domestic toil they looked sullen, morose and uninviting. Being shorter than the men they surpassed them in *embonpoint*, were quite plain and even in youth not pretty. They showed no fancy for wearing ornaments. Very few children could be seen about their lodges and of young girls almost none, and it is very probable that the men in the tribe exceeded the women numerically. The blood was kept pure, since but a few mixed bloods could be noticed.

| | | |
|------------------------|--------------|---------------|
| Patagonians | 1.754 | 5, 9.00 |
| Iroquois Indians | 1.735 | 5, 8.28 |
| North American Indians | 1.726 | 5, 7.98 |
| Ojibwé Indians | 1.700 | 5, 6.90 |
| Bushmen (Africa) | 1.341 | 4, 4.78 |
| Average stature of men | meter. 1.658 | feet. 5, 5.25 |

(Extract from American Naturalist. 1884, pp. 646, 647.)

When our informant spoke of the tall stature of the Karankawa, she referred to the men only, not to the women who are distinctly described as short and squatty. Five feet and ten inches are equal to 1.805 m.; thus the Samoans would be the only people surpassing the Karankawa men in height, and this is based upon the *old* observations of Lapeyrouse. Of our southern Indians now extant the Osages are *popularly* believed to be the tallest.

Children not yet able to walk were carried by the mother on the back wrapped in the loop of the skin worn by her. They used no cradles, but baby-boards. The babe was fastened to one of these which had the outlines of a child's body and was suspended to the ceiling of the lodge, by the thongs of a deerskin. While thereby its body became straight, the forehead of the baby was subjected to the flattening process. The children were rather quiet and cried but rarely. The boys very probably had their initiation trials like those of other Indians, but ceremonies connected with the *puberty* of girls have not been noticed among them by the white settlers.

The perfect physical condition of the people appears from the fact, that our informant never saw any deaf, mute, nor any case of squinting, though one lame man and two blind women came to her notice. The Karankawas were blessed with a sound appetite, for they were seen eating and drinking at all times of the day; after the settlers had finished their meals they appeared around the houses to ask for food.

FOOD.

The duty of procuring food for the family devolved upon the men, exclusively, and that of preparing it for the meals upon the women. There was no difficulty of procuring deer-meat and ducks, for they were as plentiful as could be wished. Of the latter, Captain Bridges once shot ninety before breakfast time. The other animals hunted by the Indians were the bear (at some distance from the lagoons) and the rabbit; of birds, the brant and other geese with their eggs; of shellfish, the oyster, which they ate on the shell.

Of fish, it was only the larger species which they caught, like the salt-water trout and the "red fish," which resembles the codfish.¹ They never used nets or angling lines. Of turtles, the great green turtle, *hai'tnlúkn*, often $3\frac{1}{2}$ feet long, was brought by them to the shore alive and then killed and eaten. The lagoons teemed with porpoises, but the Indians did not hunt for them. The shooting of fish by means of arrows is found with other tribes as well. The Omaha Indians used a special kind of arrows, without heads, for the purpose; cf. *Mag. Am. History*, N. Y., 1839, vol. xxii, p. 78; J. A. Villa Señor, *Theatro Americano*, i, p. 400, sq., states that

¹ Other fish caught by them are enumerated in Mr. Hammond's article, which also describes the mode of killing them.

the Seris in the gulf of California, pierce fish on the salt water with arrows: "los peces que (los Seris) fisgan à flechazos en el mar."

Although these Indians were not agriculturists and had no maize, their vegetable food was as varied as that obtained from animals, for which they cared much more. The soil contains a bulbous nut, without shell, which they dug and ate without cooking;¹ other bulbs were utilized also, and berries were eaten. Though salt was so near at hand, they used chile for seasoning, like the Mexicans. The tunas or cactus-figs grow there abundantly, but the Indians valued them but little, though in Cabeça de Vaca's time it was a staple food on the coast, and one tribe was named after these succulent fruits (Los de los Higos, p. 23). The Karankawas, after obtaining a quantity, laid them in the sand and rolled them with their feet until the sharp prickles were removed. The white settlers made pies of them. The Indians also ate the persimmon, this being the only fruit growing there on trees.

The cookery of these natives was a rather simple affair. Every lodge had but one iron kettle, but several made of pottery, all unwashed. Instead of mortars the women used cylindric low stones for mashing and grinding fruits or seeds, a larger stone being used upon these for crushing. They prepared but one kind of pottery from clay, the vases having a globular bottom, so that they had to be placed into a hole in the sand. They had no handles and measured in diameter about twelve inches. Mrs. Oliver observed their manufacture but once; then it was a man who made some pots and ornamented them on the outside with little designs, faces, scrolls, scallops, etc., in black paint.

When the Indians could not beg bread enough from the settlers, or molasses and other food, they mixed flour with water, laid the dough upon a flat stone and thus set it to the fire for baking. Meat was boiled or roasted on the coals, oysters were cracked in the fire and then eaten. They liked coffee very much and wanted it sweet.

The species of fish eaten by the Indians and their method of killing them are described in Mr. Hammond's article. They often caught more fish than they could dispose of, and then bartered them to the whites for household articles.

In that part of the coast the Indians always managed to get

¹ This ground nut had appendages consisting of long fibres, or films, and was of thimble size. It tasted better than the peanut.

pure, fresh water, though the whites did not know where they obtained it. The colonists had wells, no cisterns; the water of these wells was always of a brackish taste.

Of domestic animals they kept only the dog, who was of the coyote or wolf-like species as mentioned above.¹ They kept many of these, but since they were an erratic people and performed their wanderings by canoe, they never had cattle nor horses, and when mounting horses showed themselves a poor sort of cavalry.

CANOES.

Their canoes were of two kinds, both being called awā'n by them: (1) the aboriginal *dugout*, about twenty feet long, narrow, yet capacious; (2) *old skiffs* obtained from the whites, much broader than the dugouts and flat-bottomed. A mast with a little sail was occasionally set up, but for want of space they were never seen paddling or rowing them. Mrs. Oliver states that neither of the two was used for fishing, but served for transportation only; and these embarkations were so frail and untrustworthy that they could never have ventured to go out upon the open waters of the gulf. The dug outs were not made smooth upon the outside, but had the bark still on.

DRESS.

Their articles of wardrobe were exceedingly few in number, and before the advent of the whites they probably moved about in a perfectly adamitic state, except during the coldest time of the year. Hats or head-covers were unknown. The men wore a breechclout of skins, the women a skirt of deerskin; from the knee downward nothing was worn, and children under ten years went nude. Blankets (kwi'ss), obtained from the colonists, were worn only during cold weather, but skirts and all other garments used by the Texans were disliked. Women sometimes begged for dresses (kwiss kádla, *calico*), wore them once or twice, then tore them to pieces or had them on for some time with the fore parts on

¹ Dr. I. L. Wortman states in Rep. Geol. Survey of Indiana, 1884: "It is by no means uncommon to find mongrel dogs among many of the western tribes, notably among Umatillas, Bannocks, Shoshones, Arapahoes, Crows, Sioux, which have every appearance of blood-relationship with the coyote, if not, in many cases it is this animal itself in a state of semi-domestication." See also Amer. Naturalist, 1873, p. 385; "Native American Dogs," *ibid.*, September, 1885, and reprinted in Kansas City Review, Nov., 1885, pp. 239-245, from which the above quotation is made.

their backs. The blankets were fastened upon their bodies with guisache-thorns serving as pins. The sharks' oil which they rubbed on their bodies to keep their skins smooth and supple, emitted a most disagreeable odor, so that horses and cattle ran away from them,¹ sometimes for three miles from the stable, and this oil would have ruined the best dresses within a short time. Men sometimes fastened some yards of calico on their bodies, and trailed it behind them when not engaged in hunting.

The skins of panther, bear, wild-cat, raccoon and cow, which they had in their lodges, were used like mats to sit and to sleep upon, but did not serve them as garments.

ORNAMENTAL ATTIRE.

The gentle sex is generally supposed to be more fond of ornaments of dress to heighten its attractions, than are the males; but among the Karankawas just the opposite was observed. Their squat and squalid females appear to have disdained ornaments, but the males with their uncombed though braided hair and unwashed faces, loved to have some ornaments dangling about their bodies. Their braids consisted of three strands and were rather long; they never knotted the hair to make it shorter, but sometimes inserted bright objects, as ribbons, bits of colored flannel, etc. The women never braided their coarse hair nor combed it, although some combs were seen in their lodges. The men generally arranged their hair with their hands. On the throat (not on chest) they wore small shells, glass beads, fruits of the pistachio tree, little disks of tin, brass or other metal. Mother-of-pearl was not utilized for the purpose. Rings were worn also, when obtainable. They manufactured bracelets, one inch in width, of deerskin with the hair left upon it and tied them by little strings fastened on each end. The fact that both sexes wore them on the left wrist only, makes it plausible that they also served as wrist guards to hunters.

The custom of head flattening, considered as a mark of bodily improvement among so many southern tribes, was much in favor among this coast people. The babies of *both* sexes had to undergo the process, and their *foreheads* only were flattened. A piece of cloth was first applied, then a thin board, then a cloth inlaid with moss or some other soft substance to make a wad, all of these be-

¹ I have mentioned an instance of this recorded by an author of the seventeenth century; *cf.* p. 24.

ing tied around the head with a bandage, and left to stay there about one year, day and night. Even after twenty years the effect of this proceeding was perceptible.¹

TATTOOING.

More conspicuous than head-flattening are the tattooing marks observed upon the majority of the tribes who walk around wholly or partly naked. Many Indian communities are distinguished by peculiar tattoo-marks which they claim as belonging exclusively to themselves. Thus the Karankawas had the face-marks described by my informant as their own, and they must have made a strong impression at first sight if not on the Texan Indians, at least upon the white people. These lines and figures were all of blue color, and though the substance used is unknown, we are acquainted with the fact that black substances, as soot, charcoal, burnt plum seeds, etc., become blue when placed subcutaneously. Tattooing was applied to the face only, and only one man was remembered, about forty years old, whose chest showed tattoo-marks. Boys were not tattooed before their tenth year, and young women marrying into the tribe on their arrival already bore the same style of tattooing, as the women of the band frequenting the inlets of Matagorda bay.

Body painting will be discussed below.

DWELLINGS.

The lodges or wigwams of these migratory people were far from being substantial, as they could be erected and taken down again within an hour or two by the women, to whom this manipulation devolved in this and the majority of other tribes. Their mode of construction having been specified in the two articles preceding this, I have to add a few particulars only. These primitive, tent like huts were round, or intended to be so, and were called bá-ak; they contained about seven or eight people and afforded no protection against the rain, which would pour through the roof (by courtesy so called) of the structure. For want of a smoke-hole, the smoke had to escape gradually through the willow-sticks or anywhere it could. Very tall persons had to bend their heads in coming in, and

¹ Head-flattening prevails not only upon the Pacific coast from southern Oregon to 54° N. Lat., but also in Central America, Palestine, Asia Minor, etc. In the last-named country the Yu''ru''k are using *wet* bandages for the purpose. Cf. von Luschan in Berl. Gesellsch. Erdk., 1888. p. 53, and my own article in *Migration Legend of the Creek Indians*, vol. II, pp. 53-55.

when inside would touch the top. There were no seats going around the lodge walls ; all the property of these people, weapons and cooking vessels, were lying on the ground, and they sat, ate and slept on their fur-skins on the lodge-floor, using them as mats.

The lodges of the Tonkawē (yétsuʒan) and Comecrudos (wámak) are differently constructed ; they are cane or willow-stick lodges, flat on the top, open on one or two sides and covered with brush-wood and sail-cloth, old blankets, etc., on the top and the closed-up sides. They average in height from five to seven feet. The Tonkawē term, yétsuʒan, is derived from tsíʒ, tsóʒ, *cloth, textile fabric*, also *what is interwoven or wattled*, and yétsuʒan therefore corresponds best to our word *brush-lodge*.

TRIBAL GOVERNMENT.

Passing over from the physical to the mental aspects which this Indian people presents to us, our information is scanty also, but the organization existing in other tribes of the south throws some light upon the subject.

What we know about their tribal rulers is, that they were ruled by two kinds of chiefs : they had chiefs for their civil government, whose succession was hereditary in the male line, and war-chiefs, appointed probably by the civil chiefs. No women were ever known to have acted as chiefs.

One hundred years ago their territory had a considerable coast-front and must have harbored a large population. But whether this was ever united into one confederacy, like that of the Creeks or Caddos, is doubtful, for we have no reports of any alliance for offensive or defensive purposes under one head chief. If such a confederacy or symmachy ever existed, it must have been powerful and wide-reaching. It is more probable that this coast people formed a disconnected national body living under separate chiefs, which was united only by the tie of a common language, by war-expeditions undertaken under a common war chief and perhaps by phratries and gentes having the same names throughout. The Caddos and Tonkawē have the gentile system, and the mention of vendetta or blood-revenge among the Karankawas also seems to point to the existence of a system of totemic gentes.¹ After mar-

¹As I have pointed out previously, Cabeça de Vaca states that individuals of the same gens always went together ; but it is uncertain whether that coast tribe seen by him was of Karankawa affinity or not.

rying, the Karankawa often took their fathers-in-law and mothers-in-law into their lodges and lived with them.

MORAL CHARACTER.

It is certainly a difficult task to sketch the moral qualities of a nation, of which a few tribes or bands only were known to the white people, and under circumstances which make us doubt the veracity of the informants. Indeed who would be inclined to believe what what one man says about another, whom he is constantly trying rob and kill, and who is on that account cruelly punished by him from time to time?

In the earlier epochs they were filled with hatred against the Spaniards on account of their cruelty and haughty demeanor, but were not hostile to the French, who knew how to treat them in a friendly manner. But their warlike qualities and anthropophagy always made them an object of terror to the travellers and settlers of the white race, and by the Anglo-Americans they were regarded as selfish, mean, cruel, crafty and treacherous. Ignorant of any rights of property in our sense of the word they showed their thievish inclination by purloining food, knives, clothing and such household articles as they could use for themselves;¹ but were not burglars. Their lazy habits prompted them to continual begging and rarely were they willing to perform the slightest labor, no matter what reward was offered to them. But these are qualities inherent to almost every savage people. Indolence is charged even to many so-called civilized communities. Why should a primitive tribe, which had always lived upon the liberal gifts of nature, suddenly change their habits to please some settlers who came to squat upon their domain?

To the Texan settler who came to these coasts from civilized communities, these Indians certainly appeared as a ferocious type of unmitigated savagery, untamed by the milder influence of agriculture which has exerted such a civilizing power among so many of the northern and more so among the southern tribes. Mrs. Oliver sketches the people of the band near her home as "surly in their aspect, averse to conversation, apparently feeling no interest in anything that was said; they spoke to each other and to the whites in guttural, indifferent tones and with faces averted."

¹ This reminds us of what Granville Stuart states, in his "Montana as it is" (New-York, 1885), of the Snake Indians: "They are not real thieves, but steal just enough to keep their hands in."

They sometimes tried to deceive her in giving words of their language, and most of these in her list were obtained from women.

A "witty" joke, rather characteristic of their mode of thinking, was perpetrated by a young man, called Kwásh or "Fire" and is related by her as follows :

Kwásh was at times employed by her father, Mr. Bridges, to do household work, and at one time, Mr. Bridges, wishing to treat his northern guest to some genuine prairie venison, sent Kwásh out to kill a deer. In due time Kwásh returned apparently unsuccessful. He shook his head mournfully to all eager inquiries, and wore an air of extreme disappointment. Judge, therefore, of the effect produced and which Kwásh keenly enjoyed, when nearly an hour later, after having eaten his dinner, he said to her in a low voice : "*ne báwus kawá-i, ná-i dó-atn ahúk,*" *let me have the horse, I have killed a deer.*

When judging about people, their wicked qualities leave a more ready impression upon our minds than the good ones and seem to preponderate over these. It is, therefore, unjust not to make mention of the latter qualities also. When coming to see the colonists, they were not obtrusive, but rather dignified and reserved, and when they entered their houses they attentively examined the pictures hanging on the walls. When asked to work for money they were always frank enough to say "we do not want to work : " *Karánkawa kóm ta takína*). Gratefulness, devotion or kindred feelings could certainly not be expected from these natives, for these qualities are rare enough even among individuals of cultured nations ; hospitality, however, is found among almost all nations of the earth and may not have been wanting altogether even upon that distant coast of the "Lone Star State."

Between husbands and wives no sign of fondness or intimacy could be observed and they rarely spoke to each other, but between parents and children affection was sometimes noticed, especially on the mother's side. The women were not examples of elasticity ; hence but few children were born and our informant never saw over two in one family. Widows remarried as soon as opportunity offered itself. Children were not often visible and those seen were mostly babies. Adult or half-grown girls were scarce in all their bands.

The Karankawas suffered no interference of outsiders in their marital affairs and strongly resented any attempt at such. When

a band made its temporary stay at Port Austin, about the year 1839, one of the wives became suspect to her "liege lord" as to her chastity. He seized her by the hair and pulled her over the steep bluff, about five feet high, to the beach of the lagoon and beat her terribly. Aroused by her cries, the settlers interfered, but this exasperated the Indians to such a degree that they resolved to revenge themselves by a night attack. They had a ceremonial dance called "fandango," that night, as it was then full moon. Chief Antonio's wife, who was of Comanche descent, managed to notify Mr. Bridges' family of the intention, and the colonists remained wakeful after the lights had been extinguished and hid themselves in the lumber piled up about the house. After a while the husband of that woman was seen sneaking through the high grass toward the house. Several travelling men then stopped at the house, all of whom were armed. Captain Bridges advanced with cocked gun towards the dusky form in the grass, shouting: "What are you doing here? If you disturb us once more, you will all be killed by the settlers at Matagorda and of our neighborhood!" This was effective and the man withdrew; the inmates of the house watched all night long, but no attack was made and the next day the band retired to a distance of four miles near other settlements.

MANNERS AND CUSTOMS.

The information we can present upon these points is by no means exhaustive; this is a matter of regret, as the Karankawa certainly had many curious customs of their own, like all the other aborigines. An instance of this is the ceremonial *weeping* referred to above.

Among their games and pastimes shooting with the bow was prominent. They often shot at the mark or shot the arrows up perpendicularly into space, and their shooting matches were rather lively. Arrows shot at the mark and sticking in it were sometimes split in two the long way by another Indian shooting at the notch; many young men were able to do this at a distance of eighty feet at least. They also threw hatchets at the mark with wonderful precision, and rivals often engaged in brawls or fights with knives to settle their "rights." They also had ball plays and wrestling matches, one of their names, *Kéles*, *q. v.*, being derived from the latter practice. No gambling or guessing games seem to have existed among these people at that time.

Tobacco was smoked by them in great quantities in cigars or cigarettes made with maize husks, Mexican fashion.¹

As to the disposal of their dead it is not definitely known which mode they followed. Cremating was out of the question, since there was no timber or bushes in the neighborhood of Trespalacios bay, and no place of sepulture was ever known to exist or was alluded to by these Indians. Neither did they burn the lodges in case the owners died; if so, the white colonists would have heard of it. An Indian, about thirty years of age, had been failing in health through phthisis and became too weak to move about. His tribe, wishing to depart for another shore, concluded to leave him near Captain Bridges' house. They were dissuaded from doing this and promised to take him away. But after their boats had left the shore, and it was supposed they had all gone, four men brought the sick man back in a blanket, deposited him in a bush near the house, then ran away. The colonists made a provisional tent for him and his son, and he lived two weeks longer. Two days after his death his brother came to claim the boy who was three years old and had been given to Captain Bridges by his father.

When a baby died belonging to the chief, it was certainly not buried there; the Indians remained quiet in their lodges, the parents were much afflicted and a gloom reigned over the camp. Two days after they left for other parts. They appeared otherwise entirely indifferent as to sacredness of feeling or particular rites in reference to losses by death.

Further information on their customs is negative only. Upon inquiry I learned that probably they did not observe what is called the *covade*, kept no prisoners of war as slaves and did not manufacture any mats or baskets, but made coarse pottery and knew how to dress skins. There were two men in the tribe greatly despised by the others, so that they probably knew the "peculiar institution" of hermaphrodites, or men in women's clothes. Cabeça de Vaca also mentions the *amarionados* seen by him. The southern custom of scratching the knees of every warrior once a year did not exist here.² Fire-wood and other loads were carried upon the shoulders, or on the back by means of a strap.

¹The various modes of using tobacco among the Indians of the West Indies, where this practice was first observed, have been investigated by Dr. A. Ernst of Carácas, "On the etymology of the word *tobacco*," Amer. Anthropologist of Washington, vol. II, 1889, pp. 133-142.

²The Shetimashas had this custom, and among the Chá'hta coal dust was rubbed into the bleeding wounds inflicted upon their knees once every year.

MENTAL ATTAINMENTS.

Before describing what is known to us of the religious and transcendental ideas of the Texan coast people, I gather under the above heading a few disconnected points apt to illustrate the degree of mental development acquired by them.

Although the women were not manufacturers of mats or baskets, cooking pots with rude ornaments were seen in their camps. A block of wood with a roughly-wrought human face served as a doll to the children of a family; who, when scarcely two years old, often ran into the water of the bay up to their necks.

Besides some rude attempts at wood-carving a beginning of the plastic arts could be seen in the appliance of a paint, which was either red or black, and of a clay producing a black color. With these they painted figures of animals and human faces upon their skins and upon pots and articles of wood. These paintings were far remote from any artistic finish and were but seldom seen. The dugouts were not painted, as the bark remained upon the outside. Their tattooing has been referred to already.

The musical instruments of the tribe are described by Mrs. Oliver on page 18.

Of their mode of counting the numeral series would give us some idea, if we had more of it than the numbers from one to ten. Like other Indians they counted upon the fingers, commencing at the small finger and ending with the thumb. Of this their word for *five* is conclusive evidence, for *nāt'sa béhema* "*one, father.*" means to say that while counting on the *one* or *first* (*nā'tsa*) hand they had arrived at the *biggest* or *thickest* finger, which in some languages is symbolized by "*father, mother, or old.*" The *haikia*, *two*, composing the numerals from six to nine, show that they then counted the fingers of the *second* hand. To say *twenty, thirty*, etc., they held up both hands twice or three times.

Other material helps were used whenever computations had to be made extending over days or weeks, or reaching high figures. Most Indians use sticks from one to three inches in length when days have to be counted from a certain period, and after this period throw away one stick every day. To count loads a young Karankawa used the following expedient. Captain Bridges, wishing to construct a road of sea-shells, ordered him to count the necessary quantity of shells taken in a wheelbarrow to the places designed; he

then had to be absent for a while, and the young Indian kept the record of his wheelbarrow loads by placing for each one a stone in a row, sometimes three, sometimes four in a day, and by beginning a new row for every day he worked.

One of the medical or conjuring practices of these Indians was to suck the disease from the patient's body, and welts could often be seen on their skin. From this we may judge that their conjuring did not differ materially from that of other Indians. They often called on Captain Bridges for his medicines and so they must have been, in critical cases, distrustful of their own conjurers.

The Karankawas could not be prevailed upon to communicate their Indian names to the white people and thus Mrs. Oliver learnt of one only, Kwásh or *Fire*. But everyone had an English or Spanish name and many men went by the burlesque military and other epithets in use among Americans, as "Captain," "Major," "Colonel," etc., these being placed before their assumed baptismal names. The latter they changed frequently, thus Captain Jim, *e. g.*, might be known in a few weeks under the new name of Captain Jack. This reluctance of acquainting people outside of their tribe with their Indian names is frequent among Pacific and southwestern Indians and I found it to exist among the Tonkawē Indians, then at Fort Griffin, on the clear fork of Brazos river, northwestern Texas. The Tonkawē will give to their children Comanche and English names besides those from their own language, which they are unwilling to communicate to others. And why? they believe that when somebody calls an individual by his or her name after death, the spirit of the deceased may hear it and be prompted to take revenge upon those who disturbed his rest; but if called in another language this would have no effect upon the spirit. Thus after having stepped into Hades' domain, an Indian seems to remember his own language only.

The Karankawa Indians possessed a gesture language for conversing with alien Indians by motions of the hands or body. Mrs. Oliver remembered one gesture of it, to express "*nothing*," which is approximately the same as performed by other Indians for the same idea. It consisted in stretching both arms forward horizontally with fingers extended, and then making the hands or arms diverge suddenly. The Akónkisa or Acconcesaws on lower Trinity river, Texas, had a "dumb" or sign language of the same description; cf. Dr. Sibley's "Message to the President," 1805.

For signalling to a distance they had several methods. They called each other's attention by a whistle, which was much shriller than ours. On clear days, generally at noon, they signalled news by columns of smoke from their camp fires, which were started from small pits in the ground, every Indian having a fire in front of his lodge. The column of smoke was made to ascend in more than twenty different ways, sometimes diverging or curling up in spirals, sometimes rising up in parallel lines. The shape of these smoke signals was as intelligible to their distant friends as spoken language, and the messages thus conveyed appeared to determine their movements. Some of these looked like the letters V and Y, others resembled spiral lines, or two parallel zigzag lines moving upward, or twin columns standing close to each other. How these columns could be made to go up in the directions intended for them was not known to the informant, and it is possible that the numerous prairie and camp fires burning at night at all points of the horizon were used by them as signals also. It is especially incomprehensible, how smoke could be made to diverge *laterally* in the manner seen by our informant.

RELIGION.

Of the religious ideas prevailing among the Karankawas nothing is known except what Mrs. Oliver has communicated in giving a sketch of their "fandango," which evidently was a misnomer for a religious ceremony and took place when the moon was full. They also celebrated it after very successful hunts or fishing expeditions resulting in a bountiful catch. The use of the black drink decoction of the yaupon-leaves¹ (*Ilex cassine*) was frequent among Indians of the gulf coast on both sides of the Mississippi and is also mentioned in Texas by Cabeça de Vaca. The Creek Indians prepared it in three different ways and one of these they adopted when the beverage had to serve for convivial purposes.²

It was a religious act of theirs, when they sent the smoke of tobacco through their nostrils first to the north, then to the east, west and south in an apparently unconcerned and careless manner.

¹Pronounced yu-pón or ya-pón in Texas. The Texans find it in the woods, not on the coast-line and drink a *tea* or decoction of it with sugar and milk. The white people east of Mississippi river do the same.

²Compare my "Migration Legend of the Creek Indians," vol. II, 50-53, where I have adduced historic evidence upon the use of the "Black Drink."

Their staring at the sun, when it disappeared into the sea, has been observed with other Indians as well.¹

The Karankawa were frequently heard to whistle, but at certain times only and with some apparent object. Thus we do not know whether this was founded on some superstition or not. The tribe or tribes frequenting Matagorda bay had never been visited by any missionary, as far as my informant could remember, and of their legends and historic traditions nothing whatever is known, except that they formerly had lively contests with some of the neighboring tribes, the Bidai and the Tonkawê. Of former migrations of their own people they were entirely unconscious.

¹The ancient Creeks regarded it as a divine favor when they could travel at least once during their lives to the bay of Mobile to see the sun disappearing in its waters.

VI. THE KARANKAWA LANGUAGE.

It has been for a long time a desideratum to ethnologists to obtain reliable information upon this coast language, which could furnish a clew to the origin and racial affinities of the nation. This desire has now been gratified, though in a modest degree only, and I intend to present the scanty linguistic information now on hand under three headings:

1. The vocabularies.
 2. The grammatic elements of the language.
 3. Affinities of Karankawa with other languages.
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1. KARANKAWA VOCABULARIES.

A. Vocabulary obtained from Alice W. Oliver.

a *and*; gaí a dēmóa ná-i (this is) *my bow and arrows* (putting their hands upon them); gaí a dēmóa áwa (this is) *your bow and arrows*.

agníya *needle*; from Spanish *aguja*.

ähä'mmish *hush! don't cry!* (as said to children); ähä'mmish sní'n! *get away! scat!* (as said to dogs and cats; with sharp accent).

aháyika *friend*. The Spanish *amigo* was more used among them.

When wanting to be on good terms with the whites, they preferred the term *amigo* and said: *mucho amigo! kóm aháyika hostile, enemy*; the Karankawas called so several of the tribes around them.

ahúk, ahók *to kill*, sing. and pl. of object; ná-i yé dó-atn ahók m'sús *I am starting soon to kill deer*.

aknánas, aknámus *to eat*; kóm aknámus *not eatable, or do not eat*. áksöl *to whistle*.

akwetén *to drink.*

akwiní *tree; ná-i amóak akwiní I fell from the tree.*

ám *fish; aquatic animal, see tchúta.*

ámel, emphatic amé-el *hungry, cf. mál; ná-i ámel, tá kwiamóya aknámus I am hungry, I want to eat bread.*

ámhätñ *flour; yá ámhätñ corn flour, meal of maize.*

amóak *to fall; ká'da amóak, ká'da owi'ya the girl fell and wept.*

ánawan, á'nawa *smoke (?)*

asháhiak *now, presently; hálba mushawáta takína; asháhiak kwá-al, tá im the chief has worked continuously; now he is tired (and) wants to sleep.*

atcháta! *good bye! farewell!*

aúd *snake, serpent.*

áwa (1) *thou, you; pron. pers. of second pers. singular, also for dir. and indir. object: ná-i áwa báwús I give you. Captain Jim áwa kosáta Capt. Jim made it for you. (2) thy, thine, yours; áwa kanínma thy mother.*

awā'n (1) *dugout, canoe; (2) boat, vessel, ship.*

bá, bá', bē *wind; wól bá strong wind.*

bá-ak (1) *Indian lodge, cabin, willow-lodge, hut, wigwam; gás bá-ak to return home; (2) Indian camp; (3) house, building.*

bákta *day; bákta budáma wál day long past.*

báwús *to give; ni báwús tesnakwáya give me milk; ná-i áwa kwiamóya báwús I give you bread.*

béhema, béhema, bé'hma *father. Also occurs in numerals.*

budáma *gone; budáma wál long past, said of time; hálba budáma, gás messús bá-ak the chief has gone, he will return home soon.*

búdel *barrel; from Span. baril.*

dǎ' *oyster.*

dáhome *egg.*

dán *to push; glós'n ká'da dán the boy pushed the girl.*

dé *tobacco.*

dēmóa *arrow.*

dó-atñ, dō-ētn, dō'tñ *deer.*

dó-atñ; this term occurs in the numerals: haíkia dó-atñ *nine; dó-atñ hábe ten.*

dó owal *sun.*

é *tooth; é tesselénia tooth-brush.*

ém *to jump, skip.*

énno *to suck.*

étsma *hand, finger.*

gá', gá'h *moskito.*

gá-an, ká-an *to strike with hand, club, etc.*

gá-i, gáí *bow.*

gáta *domestic cat; from Spanish gato; gáta kwán kitten.*

gló-éssén, glós'n *boy; gás, glós'n come, boy! a mother said to her son five years old; ná-i glós'n kwátso my boy is sick.*

gllé-i, glé-i (1) *water and any liquid; téskaus gllé-i molasses; (2) sea, ocean, open waters.*

gusgáma *shirt; cf. kwíss.*

gwá, kwá *to read.*

hábe; occurs in dó-atn hábe *ten.*

haikia *two; composes the numerals: háyo haikia six; haikia ná'tsa seven; haikia béhema eight; haikia dó-atn nine.*

haítn *to catch, capture; ná-i kóta kuwaí haítn I ran to catch the horse; ná-i béhema haítn (go and) catch up with my father!*

haítnlokn, a turtle species, called the large green turtle, frequently found in Matagorda Bay, up to three and one-half feet long: *Chelonia mydas.*

háyo haikia *six; seems to stand for kazáyi haikia, abbrev. háyi haikia three times two; háyo hákn four.*

hákēs *to sit; kā'da hákēs bá-ak the girl sits in the house.*

hálba *chief.*

hamála *pretty, handsome; tál ákwini hamála this tree is pretty.*

hié-ä, hié-ë, hí-iä, híë-ä, ië-ë *yes!*

îm *to sleep; tá îm he wants to sleep.*

yá-an *great, large, tall, wide; the opposite of kwā'n, q. v.*

yám *potato; not the batate or "sweet potato."*

yámawe *man.*

yé *to go, to walk, reduplicated yéye; ná-i yé mëdä-u ódn I am going to shoot ducks; ná-i yé dö'tn ahók I am going to kill deer; ná-i yé wól I walked considerably.*

yétso *to stand.*

yö'ta *music.*

ka *to love, cherish; ná-i áwa ka I love you.*

kā'da *girl; mothers addressed their daughters by this term: gás, kā'da! come, girl!*

kádla *calico; kwíss kádla, see kwíss.*

- káhawan, ká-awan (1) *to make, produce, manufacture*, as bread, articles of wood, etc.; ná-i dēmóa káhawan *I make arrows*;
 (2) *to grow*, said of animals and plants; kwánakwan in the reduplicated or iterative form; kwá-an *young*; lit. "growing;" kwánnakwan akwiní? *do they grow on a tree, on trees?*
 kaíta, katá *to laugh*; áwa katá; kaúpn! *you laugh! tell (why)!*
 ka/áyi *three*.
 kanín, kenín *breast; female breast, teat*; kanínma, kénínma *mother*;
 ná-i kénínma *my mother*.
 kassídshuwakn *to hurt, injure, cause pain*.
 kássig *to pound*, as maize, etc., is pounded by means of a stone.
 kaúpn *to tell, to say to, to talk, converse*; kaúpn ná-i béhěma gás
 bá-ak *tell my father to return home*; ná-i kanínma béhěma tá
 kaúpn *my mother wants to speak to the father*.
 kědō'd, kědā'd *crane*.
 kékeya *foot, feet*.
 kíss *dog*.
 klabán *well, healthy, in good health*; áwa kánínma klabán? *is your mother well?*
 kóm, kō'm, kúm (1) *no!* (2) *not*; kóm aháyika, see aháyika; kóm
 aknámus, etc.
 kosáta *to perform, do, to make*; ná-i kwátchi kosáta mēssús *I shall soon build a fire*.
 kóta, kotá *to hasten, to hurry*; ná-i kotá bá-ak *I am hurrying home*.
 kúdn, kódn, kútn *bird*; kútně wólya (1) *prairie chicken*; (2) *chicken, hen*.
 kúmna *to know, to understand*; kúmna? *do you understand?*
 kú'nmil *gunpowder*.
 kuwáyi, kuwá *horse*; from the Spanish *caballo*.
 kwá-al, kwā'l *tired, exhausted*; áwa kwá-al! hákēs! *you are tired! sit down!*
 kwā'n and kwánakwan *to grow*; see káhawan (2).
 kwā'n, kwán (1) *little, small*; (2) *young of animal, child, babe*;
 gáta kwā'n *kitten*.
 kwáss, kwás *to know*; more frequently used than kúmna. Ná-i kúm
 kwás *I do not know*; áwa ná-i kwáss? *do you know me?*
 kwátchi (1) *fire*; (2) *nom. prop. masc., "Fire."*
 kwátcho, kwátsu *sick*; cf. kwátchi *fire*, fever-heat being often compared to fire; and kwá-al. Á'wa kwátsu? *are you sick?*

kwiám *maize, Indian corn*; kwiamóya *bread*; glós'n akwámus kwiamóya *the boy is eating bread*.

kwíss (1) *any cloth, textile fabric*; abbr. to gus in gusgáma, *q. v.*; kwíss káulla *calico dress, gown, woman's dress*.

lá-ak *goose*.

lá-akum *round*; globiform, circular and disk-shaped.

lahá-i *whiskey*.

láhaina, lá'lihama *heart*.

madóna *pig*.

mál *dead*.

matákia *to hate*; ná-i áwa matákia *I hate you* (said once by a Karankawa child to a bench when falling over it).

matchíta *hatchet*; from Spanish *machete*.

mawída *to marry*; from Spanish *marido*.

medá u, medaú, mēdāw *canvas-back duck*; prob. generic for *duck*.

messús, mēsús, m'sús *by and by, after a while, soon, at present*.

mudá? *where?* kíss mudá? *where (is) the dog?* áwan mudá? *where is the boat?*

mushawáta *for a long while, all the time, always*.

mutá *dear, affectionate*.

náyí, ná-ayi, ná-i, ná-î (1), *I*, pron. pers. first pers. singular, abbrev. into *n'*; *n' tché áwa I see you*. Also for obj. case: áwa ná-i kwáss? *do you know me?* abbr. *ně*: *ně bawús kwátchi give me fire*; (2) *my, mine*: náí bé'hma *my father*; ná-i gni *my bow*; ná-i gló'sn *my boy*.

nā'tsa *one*; nā'tsa béhema *five*, haíkia nā'tsa *seven*.

nótawa *to swim*; ám, kíss nótawa *the fish, the dog is swimming*.

nyá, niá *there, yonder*; kíss niá *the dog (is) there*; wál nia *far off*; ná-i awán tchá nyá *I see a boat over there*.

ódn, ū'dn *to shoot*; ódn dēmóa *to shoot arrows*; áwa ódn m'sús *you shoot now!* in the sense of "you may shoot presently."

ō's, óss *bear*; from Spanish *oso*.

owíya *to weep*.

pál *black*. (?)

plá *good, nice, fine, useful*; in the concrete as well as in the abstract and moral sense; the opposite of tchúta. Madó'na aknámus plá a pig *is good to eat*.

silekáyí *knife*.

sui'n; see álhá'mmish.

tá *to want, wish, desire*; gás! ná-i áwa *ta come! I want you*; kóm tá takína *he does not want to work*; glós'n ém tá wól *the boy wants to jump to a distance*; also signifies "the boy can jump far out"; glós'n tá téskaus-gllé-i *the boy wants molasses*; ná-i tá hákēs *I want to sit down*. Also used as auxiliary verb for the future tense.

táhama (1) *to break*, as china, sticks, arrows, etc.; (2) *to tear*, as cloth. takína *to work*.

tál, táll, pron. dem., *this, that*; *he, she, it*.

tamóyika *red*.

ténno *too, also, and*; ná-i ténnno Walúpe *I and Guadalupe*; glós'n aknámus *ténno the boy eats (of it) also*.

téskaus *sweet; sugar*; téskaus gllé-i *molasses*; ná-i aknámus kwiamóyi *téskaus-gllé-i I am eating bread with molasses*.

tesnakwáya *milk*.

tesselénia, teselénia *brush*; cf. é.

téts'oa, tétsoa *beef, cow, cattle, beef-meat*; Col. Robinson tétsoa ahúk *Col. Robinson has killed a cow*. The meat had to be specified by giving the name of the animal.

tólos, tólus *to run; to run fast*; nē bāwus kwáchi! tólus, tólus! *give me fire! run, run!*

tuwámka *yesterday*; also referring to *past time* in general.

tchá (1) *to see, behold*; n' tchá áwa *I see you*; ná-i áwan tchá *I see, perceive a boat*; (2) m' tchá áwa? *how do you do? lit. "how do you find yourself?"*

tchápn *to be on the point of*; n'tchápn . . . *I am going to . . .*; n'tchápn áwa ō'dn *I will shoot you*. Etymologically connected with tchá *to see*.

tchaútawal *to touch something*; wal perhaps a separate word.

tsō'l *blue*.

tchúta *bad, obnoxious, wicked, dangerous*; ápn tchutá *octopus* "dangerous fish"; kóm aknámus tál ápn; tchúta *this fish is not eaten*; (it is) *bad*.

wí-asn *rain*.

wól, wóll, wál (1) *strong, powerful*; wól bá; see há; (2) *much, a great deal of, plenty of*; wá'l gllé-i *much water*; ém wól *to jump to a (great) distance, to take a long leap*; wál nia *far off*, "way yonder"; ná-i yé wol *I walked a good deal*; cf. báhta.

wólya, see kúdn.

wú-ak *to lie down*; ná-i bé'lma wúak, tá im *my father lay down to sleep*.

B. Vocabularies obtained from Old Simon and Sallie Washington.

The following short series of Karankawa terms I have obtained from two old persons, whom I met among the Tonkawē tribe of Indians in September, 1884, who then stayed in northwestern Texas, near Fort Griffin, in Shackelford county. Both claimed to have lived when they were young for a considerable time among the Karankawas on the coast.

One of them was called *Old Simon*; he was not less than seventy-five years old and it was a difficult matter to obtain any reliable information from him on account of an extreme debility of body and memory. He called the tribe Karámkawa or Káles, Kílis, *wrestlers*, and saw twenty lodges of theirs about or after the year 1835, near the mouth of the Rio Grande, which would place this portion of the tribe much farther south than we knew them to live at that epoch. They wore no moccasins and had a powerful physique. Near the coast he had also seen three other tribes walking barefooted: the Minai (or Bídai) in twenty-five lodges; the Carri-zos in five lodges near the mouth of the Rio Grande and the Kharimame, Khaimáme or Hanáma in ten lodges. The Bídai were then southeast of Austin, the capital, and the third tribe must have been the Xaranames, mentioned in some Mexican documents.

The following words were all he remembered:

awátchxol *grass.*

éwē *come! come here!*

gaziamétēt upā't *long ago I spoke (the language).*

hókso *alligator.*

húmhe *fire.*

káhe *tobacco*; ka swénas *cigarette.*

koláme *frying pan, tin bucket (Aztec comalli ?)*

kwá má *black horse.*

kwán péka *white horse.*

kwó-om, kwōm *no.*

xankí, níktam! *come quick, boy!*

napé-nai pátsim *I speak, tell, converse.*

napé-nai naxerúaxa pára *I am very angry.*

Tchankáya *Tonkawē Indian.*

tíkēmai *beef.*

upāt (emphatically: upá-ā-āt) *long ago.*

úshi níktam *a little man, a youngster.*

My other informant was a blind old woman, not much younger than Old Simon; she was called *Sallie Washington*, on account of having once been with a delegation of Texan Indians to the capital, brought there by Sam Houston. She had once lived with a man of the Karankawa tribe for a considerable time, as reported. The words which she remembered confirm some of Old Simon's statements.

ewé-e! *come! come quick!*

háka! *sit down! tchakwamé! sit down here!*

ká-as waná! *come here!*

χankéye *to run, hurry, hasten.*

tapshewá *hog.*

wána! *go away! or let us go!*

Both lists were incorporated into the collection of manuscripts of the Bureau of Ethnology and subsequently published in the "Glossary of Braunschweig, 1886, Vol. 49, pp. 124, 125.

The small extent of these two lists renders any comparisons difficult and they probably represent another more western dialect of Karankawa than the one Mrs. Oliver was familiar with. Many words agree pretty well with her list. These two Tonkawé Indians once had tattoo lines along their noses, as I was informed, and although all traces of these had disappeared when I saw them, there is nothing impossible in this. The Karankawas were said to have had the same lines, and the Mexican tribes around the Panuco river had them also. I read the terms of these two lists to Mrs. Oliver, but she could not remember having heard any of them.

The proof that the words furnished by Old Simon and Sallie Washington really belong to the same linguistic stock as the dialect obtained from Mrs. Oliver, and that if the one is accepted as being Karankawa, the other must be considered Karankawa also, is furnished by the following coincidences:

kwá *horse*: kawáyo, kuwái.

kwó-om *not, no*: kóm, kóm, kúm.

naí *I, in* napé-naí: náyi, ná-i.

háka *sit down* (is also contained in tch-ak-wamé), hákēs *to sit down.*

ká-as *come!* gá'ls, gá's, *to come.*

In the following linguistic comparisons and the grammatic sketch only incidental use will be made of these two little word-lists, by using the sign S.

Mrs. Oliver also remembered a song worded in that language and heard from a woman of the tribe, who uttered it in an extremely monotonous strain, two lines at one breath, without any rise or fall in the intonation. It runs as follows:

Nátsa kwān kódn hákus akwíní
 tál áksol, tál áksol, tál áksol, na tchá;
 nátsa kwān gló-ēsñ gás, gá-i demö'u,
 "n' tchápn ódn áwa, hamála kwān kódn!"

The translation runs as follows:

One little bird sits on a tree,
 he whistles, he whistles, he whistles, I see;
 One little boy comes with bow and arrow,
 "I will shoot you, pretty little sparrow!"

When I made the remark, that the use here made of nátsa as an indefinite article, of tál for *he*, and of ná' tchá *I see*, was and could not be aboriginal, she said that I was right, and that the song seemed to be nothing but a translation of a well-known American cradle-song of the English language; that woman, Lettie, knew more English than other squaws, and also showed herself more affectionate to her children. The original song probably was as follows:

Little cock-sparrow sat up in a tree,
 he whistles, he whistles and thus whistles he;
 a little boy came with his bow and his arrow,
 and said: "I will shoot you, poor little cock-sparrow!"

A fragment of another cradle-song was also remembered, of which the two first lines were the following:

ähä'mish glós'n, kópn owíya,
 áwa béhema gás mësús.

Of this the original appears to be:

Rockaby baby bunting, your father's gone a hunting;
 mother's gone to get the skin, to wrap the baby bunting in.

Some more linguistic material besides the above is preserved in the place and river names of these coast tracts, though by their very nature these names can be of little use to us. Those that could possibly belong to the Karankawa language, are Kopano (*ā* long), Aranzaso or Aransas, Manawhíla Creek, Anaqua town with Anaquas River and Rancho Anaquitas, Cameron Co., Ecieto Creek, an affluent of San Antonio River in Karnes County. Two of these

could possibly be reduced to Tonkawē, but not yet to Karankawa words: Kopáno upon Kopano Bay, a large side inlet of Aransas Bay, resembles T. kópol *hollow, concave, round*; kópan, *the interior, inside of*, especially of the animal body; T. kopánek káxa-u ye-ikéwa, *bile, gall*, "what becomes black in the entrails." Anaqua town, Victoria Co., on San Antonio R., and Anacuas River, affluent of San Gertrude's Creek, Nueces Co., may contain T. áanaxok, *many* (lodges, or Indians).

Several Indian names thereabouts belong to the Nahuatl language and were imported there with several dialectic terms still heard in the Texan-English and Texan-Spanish, by the Tlascaltec Indians settled there for protecting the newly established missions. Thus we have Papalote town and creek in Bee Co., Chiltipin town and river in San Patricio Co., Atoyac River in Eastern Texas, affluent of Angelina R., running into Neches River (Azt. atoyatl *river*) and perhaps Talpacute Creek, Bee Co. A town, Tenochtitlan, formerly stood in Burleson Co., western shore of Brazos River. Several of these Nahuatl-Texian local names, with Lepantítlan, are explained by Prof. J. C. E. Buschmann, Spuren d. a. Spr., pp. 416, 417.

ENGLISH-KARANKAWA.

after a while messús.
alligator hókso S.
all the time mushawáta.
also ténno.
always mushawáta.
and a, ténno.
angry, see S. vocabulary.
arrive, to gás; ewé-e, S.
arrow dēmóa.
at present messús.
babe kwā'n; *see young.*
bad tchúta.
barrel búdel.
bear ō's.
be, to; cf. page 93.
be on the point of tchápñ.
beef téts'oa; tíkēmai, S.
beef-meat téts'oa.
behold, to tchá.
bird kúdn.
black pál; ma, S.
blue tsō'l.
boat awā'n.
bow gaí.
boy gló-ěssēn; níktam S.
bread kwiamóya.
break, to táhama.
breast, female kanín.
brush tesselénia.
building bá-ak.
by and by messús.
cabin, Indian lodge bá-ak.
calico kádla.

camp, Indian village or huts
 bá-ak.
canoe awā'n.
capture, to haítn.
cat, domestic gáta.
catch, to haítn.
cattle téts'oa; *cf. beef.*
cause pain, to kassídshuwakñ.
cherish, to ka.
chicken kútně wólya.
chief hálba.
child kwā'n; *see boy, young.*
cigarette ka swénas S.
cloth kwíiss.
come, to gás, gá'hs; ká'-as S;
 ewé-e, ewē, S.
converse, to kaúpñ; gaxiamétět,
 pátsim, S.
corn, Indian kwiám.
corn flour yá ámhätn.
cow téts'oa; *cf. beef.*
crane kědō'd.
dangerous tchúta.
day báhta.
dead mál.
dear mutá.
deer dó-atñ.
desire, to tá.
do, to kosáta, káhawan; *how do*
you do? m' tchá áwa?
dog kiss.
drink, to akwetén.
duck, canvas back medá-u.

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| <i>dugout</i> awā'n. | <i>hand</i> étsma. |
| <i>eat, to</i> aknámas. | <i>handsome</i> hamála. |
| <i>eatable; see</i> aknámas. | <i>hasten, to</i> kóta; xankéye, S. |
| <i>egg</i> dáhome. | xankí, S. ewé-e, S. |
| <i>eight</i> haikia béhema. | <i>hatchet</i> matchíta. |
| <i>enemy</i> kóm aháyika. | <i>hate, to</i> matákia. |
| <i>fall, to</i> amóak. | <i>he</i> táI. |
| <i>far off</i> wál nia; cf. nyá. | <i>healthy</i> klabán. |
| <i>farewell!</i> atcháta! | <i>heart</i> láhama. |
| <i>father</i> béhema. | <i>hog</i> tapshewá. |
| <i>find, to</i> tchá. | <i>horse</i> kuwáyi; kwá, kwán S. |
| <i>fine</i> plá. | <i>hostile</i> kóm aháyika. |
| <i>finger</i> étsma. | <i>house</i> bá-ak. |
| <i>fire</i> kwátchi; húmhe S. | <i>hungry</i> ámel. |
| <i>fish</i> ám. | <i>hurry, to, see:</i> hasten, to. |
| <i>five</i> nā'tsa béhema. | <i>hurt, to</i> kassídshuwakn. |
| <i>flour</i> ámhätñ. | <i>hush!</i> ähä'mmish! |
| <i>foot</i> kékeya. | <i>hut</i> bá-ak. |
| <i>for a long while</i> mushawáta. | <i>I</i> náyi, ná-i. |
| <i>four</i> háyo hákn. | <i>injure, to</i> kassídshuwakn. |
| <i>friend</i> aháyika. | <i>it, pron.,</i> táI. |
| <i>frying-pan</i> koláme, S. | <i>jump, to</i> ém. |
| <i>future tense often expressed by</i> | <i>kill, to</i> ahúk. |
| <i>tá</i> or <i>tchápn</i> , q. v. | <i>kitten</i> gáta kwán. |
| <i>get away!</i> ähä'mmish sní'n! | <i>knife</i> silekáyí. |
| <i>girl</i> ká'da. | <i>know, to</i> kwáss; kúmna. |
| <i>give, to</i> báwás. | <i>large</i> yá-an. |
| <i>go, to, yé; let us go! or go</i> | <i>laugh, to</i> kaíta. |
| <i>away!</i> wána! S; <i>I am go-</i> | <i>lie down, to</i> wú-ak. |
| <i>ing to</i> (do, etc.) n'tchápn. | <i>liquid</i> gllé-i. |
| <i>good bye!</i> atcháta! | <i>little</i> kwā'n. |
| <i>gone</i> budáma. | <i>lodge; Indian or willow lodge</i> |
| <i>good</i> plá. | bá-ak. |
| <i>in good health</i> klabán. | <i>long ago</i> upāt S.; tuwámka. |
| <i>goose</i> lá-ak. | <i>long past</i> budáma wál. |
| <i>gown</i> kwíss kádla. | <i>love, to</i> ka. |
| <i>grass</i> awátchxöl, S. | <i>maize</i> kwiám. |
| <i>great</i> yá-an; <i>a great deal of</i> wól. | <i>make, to</i> káhawán; kosáta. |
| <i>grow, to</i> kwān, kwánakwan. | <i>man</i> yámawe; úshi S. (?). |
| <i>gunpowder</i> ká'nmil. | <i>manufacture, to</i> káhawán. |

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|--|---|
| <i>marry, to</i> mawída. | <i>round</i> lá-akum. |
| <i>milk</i> tesnakwáya. | <i>run, to</i> tólos; see <i>ẓánkeye</i> , ewé-e. |
| <i>mine, my</i> náyi. | <i>say, to, or to say to</i> kaúpñ; |
| <i>molasses</i> téskaus-gllé-i. | pátsim, S. |
| <i>moskito</i> gǎ', gǎ'h. | <i>scat!</i> áhǎ'mmish snín! |
| <i>mother</i> kanínma. | <i>sea</i> gllé-i. |
| <i>much</i> wól. | <i>see, to</i> tchá. |
| <i>music</i> yǒ'ta. | <i>serpent</i> aúd. |
| <i>needle</i> aguíya. | <i>seven</i> haikia ná'tsa. |
| <i>nice</i> plá. | <i>she</i> tál. |
| <i>nine</i> haikia dó-atñ. | <i>ship</i> awǎ'n. |
| <i>no!</i> kóm; kwó-om, kwōm, S. | <i>shirt</i> gusgáma. |
| <i>not</i> kóm. | <i>shoot, to</i> ódn. |
| <i>now</i> asháhak. | <i>sick</i> kwátcho. |
| <i>obnoxious</i> tchúta. | <i>sit, to</i> hákēs. |
| <i>ocean</i> gllé-i. | <i>sit down!</i> háka! tchakwamé! S. |
| <i>octopus</i> áñ tchúta. | <i>six</i> háyo haikia. |
| <i>one</i> ná'tsa. | <i>skip, to</i> éñ. |
| <i>open waters</i> gllé-i. | <i>sleep, to</i> í'm. |
| <i>oyster</i> dǎ'. | <i>small</i> kwǎ'n. |
| <i>past time; "in times past" is</i> | <i>smoke; see</i> ánawan. |
| often expressed by <i>tuwám-</i> | <i>snake</i> aúd. |
| <i>ka; long past</i> budáma wál. | <i>soon</i> messús. |
| <i>perform, to</i> kosáta. | <i>speak, to; see</i> gaẓiamétét S., |
| <i>pig</i> madóna. | pátsim, S. |
| <i>plenty of</i> wól. | <i>stand, to</i> yétso. |
| <i>potato</i> yám. | <i>strike, to</i> gá-an. |
| <i>pound, to</i> kássig. | <i>strong</i> wól. |
| <i>powerful</i> wól. | <i>suck, to</i> éñno. |
| <i>prairie chicken</i> kutně wólya. | <i>sugar</i> téskaus. |
| <i>presently</i> asháhak. | <i>sun</i> dó-owal. |
| <i>pretty</i> hamála. | <i>sweet</i> téskaus. |
| <i>produce, to</i> kálawan. | <i>swim, to</i> nótawa. |
| <i>push, to</i> dán. | <i>talk, to</i> kaúpñ; gaẓiamétét S. |
| <i>quick!</i> see ewé-e, ewē, S; <i>to run</i> | <i>tall</i> yá-an. |
| <i>quick</i> tólos. | <i>teat</i> kanín. |
| <i>rain</i> wiasn. | <i>tell, to</i> kaúpñ; gaẓiamétét S. |
| <i>read, to</i> gwá. | pátsim, S. |
| <i>red</i> tamóyika. | <i>tear, to</i> táhama. |
| <i>return, to; see</i> gás. | <i>ten</i> dó-atñ hábe. |

| | |
|---------------------------------------|--------------------------------------|
| <i>textile fabric</i> kwíss. | <i>want, to</i> tá. |
| <i>that</i> tál. | <i>water</i> gllé-i. |
| <i>there</i> nyá. | <i>weep, to</i> owíya. |
| <i>thine, thy</i> áwa. | <i>well, adj.,</i> klabán. |
| <i>this</i> tál. | <i>where?</i> mudá? |
| <i>thou</i> awá. | <i>whiskey</i> labá-i. |
| <i>three</i> kaxáyi. | <i>whistle, to</i> áksöl. |
| <i>tin bucket</i> koláme S. | <i>white</i> péka, S. |
| <i>tired</i> kwá-al. | <i>wigwam</i> bá-ak. |
| <i>tobacco</i> dé ; kahe, ka, S. | <i>wide</i> yá-an. |
| <i>Tonkawē Indian</i> Tchankáya, S. | <i>wind</i> bá. |
| <i>too</i> ténno. | <i>wish, to</i> tá. |
| <i>tooth</i> é. | <i>woman's dress</i> kwíss kádla. |
| <i>tooth-brush</i> é tesselénia. | <i>work, to</i> takína. |
| <i>touch, to</i> tchaútawal. | <i>yes</i> hié-ě. |
| <i>tree</i> akwiní. | <i>yesterday</i> tuwámka. |
| <i>turtle, large green</i> haítnlokn. | <i>yonder, adv.,</i> nyá. |
| <i>two</i> haíkia. | <i>young, adj.,</i> kwā'n ; see also |
| <i>understand, to</i> kúmna. | kálawan. |
| <i>vessel, sailing</i> awā'n. | <i>young of animal</i> kwā'n. |
| <i>walk, to</i> yé. | <i>youngster</i> ushi níktam, S. |

2. GRAMMATIC ELEMENTS OF THE LANGUAGE.

PHONETICS.

Phonology is that part of grammar for which the most information can be obtained from the scanty material now on hand. The little we have is just sufficient to show that the Karankawa dialect in question embodied some sounds rarely occurring in European languages, and that vice versâ others well represented there did not enter into the phonologic system of that dialect. Its syllabic structure was remarkably vocalic, like that of the majority of languages spoken within the limits of the United States.

The *consonantic sounds* subdivide themselves into :

| <i>Explosive sounds.</i> | | <i>Sounds of duration.</i> | |
|--------------------------|--------|----------------------------|---------|
| SURD | SONANT | SURD | SONANT |
| Gutturals k | g | ʒ | h |
| Palatals tch | dsh | | y |
| Linguals | | sh | l, ɫ, r |
| Dentals t | d | s | n |
| Labials p | b | | w, m, ɱ |

It appears from this list, that the following sounds, not unfrequent in other North American languages of the southwest, are not represented in this dialect; the labials *f, v*, the lingual or cacuminal *ʔ*, the palatalized *l* ('*l* or '*l*'), the two dental aspirates of English: *th* and *dh* and the uvular trill *ʀ*.

Among the sounds uncommon in Indian languages we find the complex sound *ɫ*, which varies considerably as to pronunciation and often sounds like *dl, dn, tn*, and occurs in *Káyowē*, *Omaha*, *Ponka* and other tongues of the Mississippi plains.¹ Another is

¹This linguo-dental sound is met with in *kálla calico*; *dó-atn, dó-ad, dó-ētn deer*; *kédód, kédá'd crane*; *kód, kódn, kútn, bírd*; perhaps also in *ámhūtn flour*.

m, which differs from m by being a *final* sound closing words and is pronounced short and with the lips tightly closed. The double l (ll) in gllé-i *liquid, water, juice*, is a vocalic l equal to the thick l of the Polish language. The aspirate χ is not frequent, and often resembles an h forcibly expelled from the vocal tube; it occurs in gáys, gá'hs *to come*, kazáyo *three*, in náχěruaya (S.) My informant said that in pronouncing their tribal name, the r was very distinctly uttered by them: Karánkawa. The older form of the name was, as seen previously, Clamcoët, so that both sounds, l and r, were interchangeable. Simon has r in *one* word, but r in the Spanish words *baril* and *marido* becomes búdel and mawída, a fact proving that Spanish r differed from the r of that Indian dialect.

It is curious to observe, that the surd mutes here preponderate in no manner over the sonant mutes (except in the palatals), for this fact differs altogether from what obtains in other languages of North America. The preponderance of the a among the vowels appears to have the same cause.

The *vocalic articulations* of this coast dialect are not numerous, and there was a tendency to pronounce them indistinctly, as English people do. The series is as follows:

| | |
|-------|-------|
| a ā | |
| e ä | o ō |
| i | u |

The short a and e was often weakened down to ě as in *butler, poker*, and between a and o the Karankawa had an intermediate sound â, ô, as heard in *ball, straw*. The vowel a was apparently the most frequent of all vocalic sounds in the language. Of the three softened vowels of German, the Umlaute: ä, ö, ü, only ä occurs in the vocabulary, the two others being rare throughout North America. The vowels were generally pronounced short; long vowels were due to synizesis only. The vowels were not nasalized as they are in French, Cha'hta, Tuskarora and especially in Káyowe, where every vowel can become nasalized.

Of *diphthongs* the language exhibits a considerable variety, though few of them stand at the commencement of words. In many of the diphthongs the component vowels are pronounced and accented separately, and when they are, a more archaic status is thereby evidenced. These *adulterine* diphthongs are found in the large majority of the Indian languages. A word entirely com-

posed of vowels is *owíya to weep*. We meet with the following diphthongic groups :

ai in : haíkai, kuwáyi or kuwaí, labá-i and labaí, gaí, kaíta.

ei in : kékeya, gllé-i and glléí.

oi in : kwiamóya.

ui in : kwiám, kwiamóya.

ia, ya in ; mutákia, niá or nyá, tesselénia, yámawe, owíya.

io, yo in : yǒ'ta, háyo.

ye in : yé, yéye, yétso.

au, aw in : áwa, ā'wan, medáu and mēdā-u, téskaus, aúd, musha-wáta, nótawa.

ou, ow in owíya.

Alternation or spontaneous permutation of cognate sounds without any apparent cause occurred here as well as in all other primitive, unwritten languages, though apparently more in the vocalic than in the consonantic elements. The latter alternate in *gwá*, *kwá to laugh*, the former in *ódn* and *údn*, *ahók* and *ahúk*, *aknámus* and *aknámás*, *bǎ'* and *bě'*, *dó-atn* and *do-ětn*, *béhema* and *bé'héma*, *bé'lma*, *kóm* and *kúm*.

Accentuation. In many words of the vocabularies the radical syllable is the accented one, and when stress is laid upon the termination, or when the terminal becomes long in quantity, the accent advances to the ultimate syllable : *ámel* and *amé-el*, *kóta* and *kotá*. The few Spanish words of the vocabularies are emphasized upon the penult, which is the true Castilian pronunciation.

Gemination. The doubling of consonants and vowels is quite common and appears to have no other reason except that of emphasizing. From the elision in *káhawan* originates *ká-awan*. Consonants are geminated in *āhā'mmish*, *énno*, *ténno*, *kíss*, *kássig*, *kwáss* ; vowels in *kwá-al*, *bá-ak*, *gá-an*, *yá-an* (and *yā'n*), *lá-ak*, *lá-akum*, *kwá-an* (and *kwā'n*), *amé-el*, *dó-owul*.

Grouping of sounds. Vocalic groups or accumulations have been considered previously. As to the groups of consonants, we find but few instances, like *étsma hand*, where more than two consonants were joined into one cluster, and one of these generally is a trill or a nasal. Thus we have *aknámás to eat*, *gllé-i*, *glé-i liquid*, *glós'n boy*, *haítnlokn turtle*, *kanínma mother*, *kassídshuwakn to hurt*, *kúnmil gunpowder*, *plá good*, *klabán healthy*, *sn'n*, *kaípn* and *tchápn*. When elisions take place, vowels disappear and consonants often unite into clusters : *n' bǎwús*, *n' tchá áwa*, *m' tchá áwa*.

Other consonant-groups are observed in *bákta day*, *hálba chief*, *gusgáma shirt*, *kwátso sick*, *téskaus sweet*, *tuwámka yesterday*.

Combinations of two consonants, especially of an explosive with a sound of duration following, are not unheard of as *initial* sounds of words, but consonants or vowels standing single, the former followed by a vowel, are the rule. Syllables and words generally end in vowels, which proves the vocalic character of the language.

Mode of utterance. From the vocabularies it would appear that this language was not only vocalic but sonorous also. But my informant stated they spoke in "guttural, indifferent tones," and that the "deep gutturals of their language conveyed the expression of extreme fatigue." Further explanations elicited the fact, that their utterance was monotonous and indistinct, because they took neither the trouble of speaking aloud nor distinctly and often abbreviated the terms. The "extreme fatigue" or "anxiety" I have often remarked in the utterance of Indians on the Pacific coast, who had not more gutturals in their language than we have in English. The cause of this apparent "fatigue" lies in their laryngeal utterance, while the glottis is left open and in their habit of protracting their sentences beyond the supply of breath which they can command.

MORPHOLOGY.

In the linguistic material before us there is very little which could give us a clue to the grammatic structure of this coast idiom. The nouns do not appear to have had any inflection for case¹ and the verbs were inflected by auxiliary verbs—but we have always to bear in mind, that the informant had not heard this language spoken for at least thirty-eight years, and that therefore the syllables and sounds expressing grammatic relation may have escaped her memory.

Reduplication was certainly one of the synthetic features of that language and had the function of iteration, repetition or severalty; this becomes apparent from *kwánnakwan to grow*, compared with the simple form *káhawan to make, to produce*. *Yéye to go*, said of many, is the reduplicated form of *yé to go*. The noun *kékeya feet* is also showing a reduplicated form and I take it to be a real plural of a supposed form *kéya foot*; cf. *kió to walk, go* in the Comecrudo language. From these examples it is not possible to determine all

¹ In Tonkawé the case-suffixes, or what may pass for such, are still in the condition of postpositions to the noun.

the various methods of reduplication, but from analogous facts in Tonkawē and Pakawa it becomes probable that the first syllable was the reduplicated one.

The series of *numerals* is either faulty or not given in the *correct* order and hence no dependable conclusions can be drawn from it.

Pronouns. The personal *pronoun* was identical with the possessive pronoun, if the examples are correct, and this would prove that the verb was in fact not a verb nor a noun-verb, but a real noun; thus "I kill" had to be expressed by *my killing* and "I kill a chicken" by *my killing of a chicken*. The personal pronoun was placed before, not after the noun qualified.

If the pronoun of the first person of the singular allows any inference concerning the other pronouns, they were often abbreviated; we find them abbreviated also when used in the case of the direct and indirect object. Náyi, ná-i *I* becomes n', ně, in n' tché áwa *I see you*, ně báwus kwátschi *give me fire*. It is possessive: *my, mine* in ná-i gáí *my bow*; ná-i kanúma béhēma tá kaúpn *my mother wants to speak to the father*.

The pronoun of the second person of the singular number is áwa *you, thou* and *thy, thine*; perhaps we find it abbreviated to *a-* in the term atcháta *good-bye, farewell*, if this can be resolved into a tchá ta (*I*) *want to see you (again)*, or (*I*) *shall see you (again)*.

The demonstrative pronoun táí *this, that* also served to express our *he, she, it*.

Other pronominal roots appear in nía, nyá, *there, yonder*, abbrev. to yá; and in mudá *where?* cf. m' in: m' tchá áwa? *how do you do?*

Verbal inflection. From the syntactic examples I conclude that the verb (or the noun having predicative verbal function) did not inflect for person, but that the personal pronoun was placed separately, and generally *before* the verb. We do not know how the past tense was expressed, though some temporal particle seems to have served for the purpose. The future tense was often indicated by tá *to wish, want* or by tchápn *to be on the point of*, both being placed before the verb.

ná-i tá hákēs *I am going to sit down, I shall sit down.*

ná-i bé'hma tá im *my father is going to sleep, or wants to sleep.*

n' tchápn áwa ō'dn *I will shoot you.*

Perhaps in the suffix *-pn* the idea of futurity was inherent also:

tá kaúpñ (*she*) *wants to speak*; or it may have been the suffix forming a gerund or other verbal.

The imperative and interrogative sentences contained in the vocabulary do not contain any forms differing from the declarative forms of the verb. Negative statements were expressed by the particle kóm, kúm standing separate from the verb; of a passive verb no example was obtained, neither do we have any indications how participles and verbals were formed.

Of *particles* transmitted there are only a few: a *and*, asháhak *now*, m'sús *soon*, mushawáta *for a long time*, ténno *also*, tuwámka *yesterday*.

Radical syllables. The monosyllabic roots, as far as recognizable in the words of the vocabulary, frequently terminated in vowels, but just as often in consonants and their vowels were short. Many monosyllables in the vocabulary represent bases rather than roots and also end in consonants, and their brevity agrees well with the thoroughly analytic character of the language. Thus we have aúd *snake*, dé *tobacco*, gaí *bow*, áñ *fish*, é *tooth*, im *to sleep*, mál *dead*, plá *good*, wál, wól (1) *large*, (2) *much*.

SYNTAX.

There are no instances in the vocabularies to show the use of postpositions; but whenever bá-ak is employed in the sense of *in the house*, *to or from the house*, it stands without affix after its verb and at the end of the sentence:

ná-i kotá bá-ak *I am hurrying home.*

kā'da hákēs bá-ak *the girl sits in the house.*

A remarkable freedom must have prevailed concerning the position of words in the sentence. The direct and the indirect object could be placed after as well as before the verb, for we find:

ná-i áwa ka *I love you.*

ná-i demóa kálhawan *I make arrows.*

ná-i yé dótn ahók *I am going to kill deer.*

ná-i aknámus kwiamóya *I am eating bread.*

ná-i amóak akwini *I fell from the tree.*

ná-i kwátchi kosáta m'sús *I will make fire soon.*

The adverb is sometimes placed after the verb it qualifies attributively, and at the end of the sentence: ná-i yé wól *I walked a good deal*; ná-i awán tchá nyá *I see a boat over there* (wál nyá *far off*).

Nominal and pronominal attributes were placed before or after the nouns which they qualified. In compound nouns the determining word precedes the word qualified :

ám tchutá *octopus*, viz. "dangerous fish."

é tesselénia *tooth-brush*.

gáta kwán *kitten*, viz., "cat's offspring."

Karánkawa hálba a *Karankawa chief*.

tál akwíni *this tree*; ná-i béhéma *my father*.

téskaus-gllé-i *molasses*, viz., "sweet juice."

The verb *to be* was not expressed when in the present tense, but then the nominal predicate (noun or adjective) was placed at the end of the sentence :

ná-i amél *I am hungry*.

ná-i glós'n kwátcho *my boy is sick*.

asháhak kwá-al *now he is tired*.

áwa kanínina klabán? *is your mother well?*

tál akwíni hamála *this tree is pretty*.

It must remain a matter of doubt, whether Karankawa had a substantive verb or not, for it cannot be inferred from the sentences on hand, how it was expressed in the past, future and other tenses.

DERIVATION.

To obtain an idea of the mode of derivation in this language, all that can be done is to gather and rubricate the *affixes* or what appears to be affixes. These are prevailing suffixes, and only one of the affixes, *a-*, may be suspected of being a *prefix*.

a- occurs in *akwíni tree*, and is a prefix, if this noun is a derivative of *kwan* (cf. *kwánnakwa to grow*); also in *aháyika friend, friendly*, if this is a derivative of *háikai "two together."* If we regard *akwámus to eat* as connected with *kwiam maize, or food* in general, *a-* has to be considered here as a prefix also.

Suffixes of derivation. Suffixes are either verbal or nominal or both simultaneously.

-áya, -áyi, -á-i appears in *kazáyi three*, *labá-i whiskey*, *silekáyí knife*, *tesnakwáya milk*.

-ika occurs in *aháyika friend*, *tamóyika red*; perhaps in *tuwámka yesterday*, if this has originated from *tuwámika*.

-l is found chiefly in adjectives, as *amél hungry*, *mál dead*, *kwá-al tired*, *tál this one*, *tsō'l blue*, *wál, wól large and numerous*. We also find it in *kúnmil gunpowder*.

-ma occurs in *béhēma father*, *budáma gone* (perhaps a participle), *étsma hand*, *gusgáma shirt*, *láhama heart*, *kanínma mother*, a derivative of *kanín female breast*; it also occurs in the verb *tá-hama to break, tear*.

-n is a frequent suffix and appears in the following verbs: *akwetén to drink*, *kálawán to produce*, *gá-an to strike*; also in nouns, like *kwā'n young, little*, *kanín breast*, *klabán healthy*, *yá-an large, tall*, *wi-asn rain*, and in the particle *sn'n*. Whether -n is the full suffix, or whether it is the remnant of a longer form like -an is a matter of doubt.

-na occurs in *kúmna to know*, *takína to work*; also in *madl'na pig*.

-s is verbal and nominal suffix: *aknámas to eat*, *báwás to give*, *gás to come*, *kwás to know*, *tólos to run*; also in *kíss dog*, *kwíss cloth, tissue* and in *m'sús soon, by and by*.

-ta occurs in some of the verbs of the vocabulary: *kaíta to laugh*, *kosáta to perform*, *kóta to hasten*; in nouns and particles: *bákta day*, *yō'ta music*, *mutá dear*, *tchúta bad*, *mudá where? cf. tchaúta-wal*.

REMARKS ON A FEW TERMS.

To promote all farther inquiries on the language as much as feasible I add some remarks upon the function and derivation of some terms to those presented previously, excluding the numerous Spanish words which have crept into the language. These were qualified as such in the vocabulary, and if *tsōl blue* is the Spanish *azul*, this term has to be added to the list.

bá is probably not *wind* but the verb *to blow*; *wól bá it blows hard*.

dä' oyster; the original meaning is probably *shell*, and this would explain *dá-home egg*, viz., "what has a shell," or "what is in the shell."

dó-owal sun. Should this term be derived from the word for *heat* as it is in many southern languages, then I would consider *dó-owal* as a compound of the adjective *wál strong, great* ("great heat"). Thus in *Naktche* the archaic term for the sun was *wasíl* "fire great;" in *Tonkawē táxash* is *sun*, *táxan heat*; in *Nahuatl tónatiuh sun*, *tóna to be hot*. In the *Cotoname* *ō'*, *ó* is *sun* and *day*.

háitn *to catch, capture* composes the word háitnlokn *large green turtle*.

kassídshuwakn *to hurt* is a compound of kássig *to pound*, which may have had other significations besides. From this the existence of compound verbs becomes probable.

kaúpn *to tell, speak*, seems connected with gwá, kwá *to read*, of which the original meaning must have been *to speak* (to the paper) ; cf. the English *to read* with German *reden*, *to speak*.

kutně wól ya *hen, prairie chicken*, is probably a whole sentence : "birds-many-there (are)" or "bird-large-there (is)." I assume that nyá is here abbreviated into yá.

lá-ak *goose* is an onomatopoetic term, corresponding to lálak *goose* or *brant-goose* in Pacific coast languages. Owíya *to weep* seems to have also an onomatopoetic origin.

pál *black*. My informant was not quite certain about this term, which in Comecrudo is used in that sense. Old Simon has ma *black*. The Cotoname dialect has bai for *dark, black, night*.

yö'ta does not signify *musical instrument*, but *music* only.

3. AFFINITIES OF THE LANGUAGE.

While engaged in comparing the scanty remnants of this littoral dialect with other tongues now spoken throughout Texas and Mexico, I have met with linguistic facts which give us a firm foothold for assigning the Karankawa people its true ethnic position. When the language of a people is shown to pertain to a certain family, this does not always determine the ethnic race to which it belongs ; but in this western hemisphere it does so in most instances, because here the nations which are known to have exchanged their paternal language for that of other national bodies by conquest, commercial intercourse or other contact are by no means as numerous as in the eastern hemisphere.

The languages which I have compared with positive results were the Tonkawé on one side and three Pakawa dialects upon the other : Comecrudo, Cotoname and the dialect of Garcia's "Manual" of 1760. All of these are so unlike the Karankawa that it takes considerable time to find in them any facts pointing to affinity and the idioms are so unintelligible to each other that the Indians of none of these three languages could have entertained the idea that all came from a common stock.

AFFINITY OF KARANKAWA WITH TONKAWA.

éwe, éwe-e! *come here!* T. níwe *come here!* wé ewan *in that direction.*

haítlnokn *great green turtle*; T. oxóloko, oxolákan *oyster, mussel, shell*; the second part lóko recalls the Kar. lókn, haítln meaning *to capture.*

hie-ě', hie-á! *yes!* T. héhe, *yes.*

kóđ, kódn, kúđ *bird*; T. kóla, ko-óla *bird.*

ḡankéye *to run, hasten*; T. hána, ḡána, redupl. ḡáḡa *to walk, to be going*; ḡáyen *going.*

tál, *this, this one*; T. tále, tél *this, this one* and adv. *here.*

tehá *to see, to find*; T. yátelhu, yételhu *to see, to find*; ya, ye- being prefixes.

wál *large, great, numerous*; T. kwálo *large.*

wána *to go, to leave*; T. wáněn *it is going* (said of a bullet); tá-usho wána *shooting star*; sekiéshte wáněn *seven-shooter*; wan wá-al *just so, like this.*

AFFINITY OF KARANKAWA WITH PAKAWA DIALECTS.

(Com.—Comecrudo; Cot.—Cotoname; G.—Garcia).

aknámus *to eat*; Cot. ḡaxáme, haháme *to eat*; akwanámie *to masticate.*

bá, bá' *wind or it blows*; Com. pót *wind*, pepót *blowing.*

é, é'h *tooth*; Com. í, íy; he-éwu í *tooth.*

gaí *bow*; Com. ḡaí, kaí *wood, tree*, ḡaí and ḡaí patáple *bow.*

ká *to love, to like*; G. káwa, redupl. kakáwa (spelt: cacagua).

kanín *teat, female breast*; Com. keném, kném *teat and female animal*, kené *chest (of man).*

kíss *dog*; Cot. kíssá *fox.*

kóđ, kódn, *bird*; Cot. komióm *bird.*

kóm, kúpn, kwó-om *no!* Com. kám; G. aḡām, yaḡám *not.*

kúmna *to know*; Com. kám *to know.*

kwánnakwan *to grow*; Com. kwaskám *to grow (plants)*; kwás *fruit.*

náyi, ná-i, naí *I*; G. na- *I.*

péka *white*; Com. pók, púk (in pépok, pépuk, pe- being prefix) *white.*

plá *good*; Com. pélé, p'lé *good.*

sn'ín, a particle occurring in an exclamatory phrase: áhā'mmish

sn'n, *q. v.*; Garcia has snón for sán inón; *zákal ajám snón ne vayas tu, do not go*, Manual, p. 30; *çayuna snó (I order) that you have to fast*, *ibid.*; *zamestía snó (I order) that you have to pray*, *ibid.*

tál this, this one; G. *ta-* in *tapá, tapôm the one (who is) here*.

upât long ago; G. *apa at that time*.

There are several other Karankawa terms which seem to be related to words of the Pakawa dialects; but the affinity not being certain and perhaps illusory, I have gathered them after the others into this appendix:

bá-ak house, lodge; Com. *wamáak house*.

ahúk to kill; Cot. *wátçuka to kill*, *cf. wátěço he died*.

gló-ěssn, glós'n boy; Cot. *kuwósam little boy, little girl*.

im to sleep; Com. *-em in német to sleep*.

ma black; Cot. *baí black, dark, night*.

níktam boy; if it means "not yet adult," it may be connected with Cot. *katám large, adult, grown up*.

káhe, ka tobacco; Com. *á'h tobacco*; or it may be connected with Com. *çái wood, tree, plant*.

From the above lists it appears that the probability of a linguistic affinity existing between Karankawa and the Pakawa dialects is rather strong and will probably increase with further researches made in Garcia's "Manual" of 1760 and in the surviving dialects of Pakawa.

The proofs for an affinity between Tonkawē and Karankawa are rather scarce, but would by themselves become strong in spite of their paucity, if relationship could be proved to exist between Tonkawē and Pakawa dialects by direct comparisons. In this direction I could find only what follows:

T. *áz, āç water, liquid*; Com. Cot. *áz water, liquid*.

T. *áu, á-u deer, áwash buffalo, meat, flesh*; Com. *ewé, eu-ē deer, and meat*.

T. *ášhui belly*; G. *as'hipok belly*.

T. *kála, kál mouth*; Com. *çal mouth*; *cf. kám to eat*, in T. *yáça*.

T. *ça-* in *çá'she, çá'si leaf, husk*; *sá-çai arrow*; *nénçashan wood*; Com. *çái plant, wood, tree*; *cf. Kar. káhe (this page)*.

T. *ékwán dog*; Cot. *kowá-u dog* (see below).

T. *-tsáç* in *yétsaç chest, breast*; G. *tzotç breast*.

Derivatives of the verb *káhawan, ká-awan to make, produce*, seem to link together all the languages just considered. I assumed that

this verb could also be employed intransitively in the sense of *growing*; cf. kwánnakwa *to grow*. Nouns formed from kálawau would then have either an active signification, as in T. kwā'n *woman* and *wife*, also *female animal*, viz. "producer" and Kar. kwā'n *young, little*, viz. "growing." This reappears in T. wízwau *young, little, small* (we-, wi- is often plural prefix), in Com. kwás *fruit* and perhaps in Com. pakwaúla *married* (man), G. ak'au *husband*, viz. "procreator." Ékwau *dog* for yékwau "generating" (T.) may also belong here, as dogs belong to the most prolific among the animals.

I have also compared over two hundred words of other southern Indian languages with Karankawa terms of similar or related significations in order to trace further affinities or loan-words. The languages compared were Caddo and cognate dialects, Tonika, Shetimasha, Ná'htchi, the Maskoki dialects, Yuchi and Atákapa. On account of its proximity to the Karankawa lands I expected to find a number of analogies in the latter, but was disappointed, the most of them being furnished by Shetimasha of Southern Louisiana.

K. kíss *dog*; Shet. kish; kish atín is *horse*, viz. "large animal."

é, é'h *tooth*, Shet. i; í kipi *gums*, viz. "tooth-flesh."

bá', Com. pot *wind*; Shet. póko, póku" *wind*.

lá-ak *goose*, onomatop.; Ná'htchi lálak, Yuchi shanlála.

ám *fish*; Ná'htchi ä^m *fish*.

yá *this one*; Shet. há, á; Ná'htche káya, Aták. yá.

apél Com. *above, sky* and *face*; Koassáti abá; Tonika apáru *sky*.

a'h, á'x *water* Com.; áx in Atákapa and in Tonkawē.

káhe, ká *tobacco*; Caddo náki ká'hwa *I smoke: tobacco* being yáha in Caddo.

ma *black*; Atak. mél, mélmel; Tonika méli.

VII. BIBLIOGRAPHIC ANNOTATIONS.

The "Relation" of *Joutel*, which is of importance for the study of manners and customs of the Texan *coast Indians*, has come down to our times in several editions differing considerably among themselves. A narrative running parallel to that in Margry, *Découvertes*, vol. III, 120-172 will be found in B. F. French, *Historical Collections of Louisiana*, Part I (New York, 1846, 8vo), 94-118, etc. An early English edition of Joutel was published in London, 1714.

Additional information on the *Karankawa* tribe is contained in Charlevoix, *History of New France*, iv, 75-77 (*ed.* Shea) and in Bonnel, *Topographic Description of Texas*, Austin, 1840.

Mounds and graves in Aransas County, near Salt Creek on Hynes Bay, "where the Karankawas formerly dwelt," are described by V. Bracht in the Annual Report of the Smithsonian Institution, 1879, p. 442.

The *Aranama* tribe, a peaceable people mentioned, pp. 29 and 34, as living at La Bahía del Espiritu Santo mission, appear to be identical with the Xaranames of some Mexican documents preserved in the Texas state archives, *cf.* p. 79. In this case we shall have to assume that the initial guttural *x* was lost, and the Kirononas, who lived on St. Bernard's bay, may in their name represent another form of the same aboriginal appellation; see p. 35. Document No. 83 of the Texas archives, date about 1792, mentions thirty-two Xaranames who had run away from the mission of Espiritu Santo.

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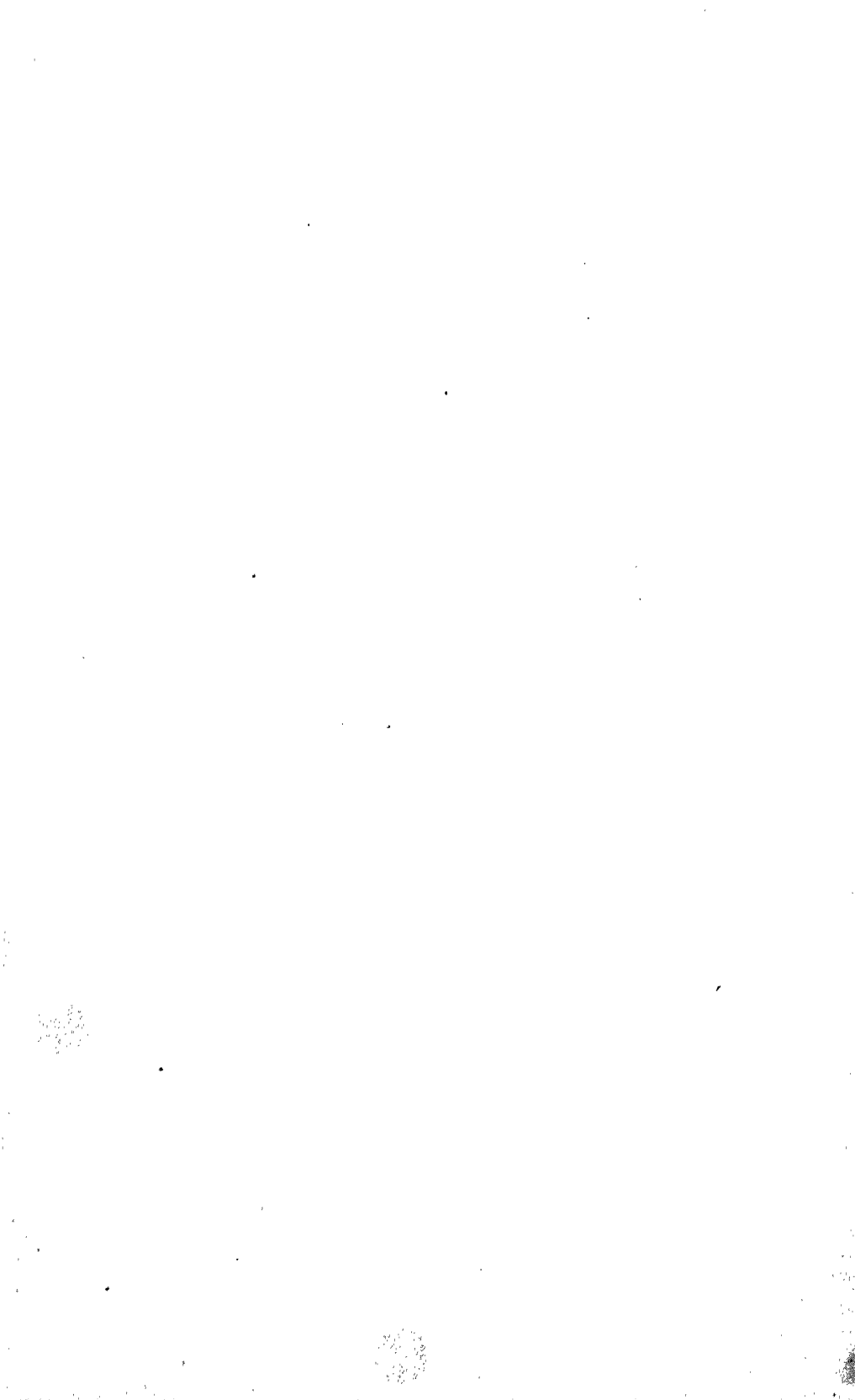
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THE ATLATL OR SPEAR-THROWER

OF THE

ANCIENT MEXICANS..

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BY

ZELIA NUTTALL,

Special Assistant of the Peabody Museum.

WITH THREE PLATES.

CAMBRIDGE, MASS.
PEABODY MUSEUM OF AMERICAN
ARCHÆOLOGY AND ETHNOLOGY.

1891.

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EDITORIAL NOTE.

ALL who have read Mrs. Nuttall's memoir on "An Ancient Mexican Head-dress," published as No. 1 of the Museum Papers in 1888, will be specially interested in this second number of her series of essays illustrating the life and customs of the ancient Mexicans. Mrs. Nuttall's knowledge of the Nahuatl language and her familiarity with the original sources of information relating to Mexico, together with her exceptional opportunities for investigation during several periods of residence in Mexico as well as in various European cities, give to all she writes the stamp of authority; while her painstaking and thoroughness of investigation are apparent upon every page. It is therefore with great satisfaction that this second essay is published by the Museum, and the statement made that it will soon be followed by another of the series.

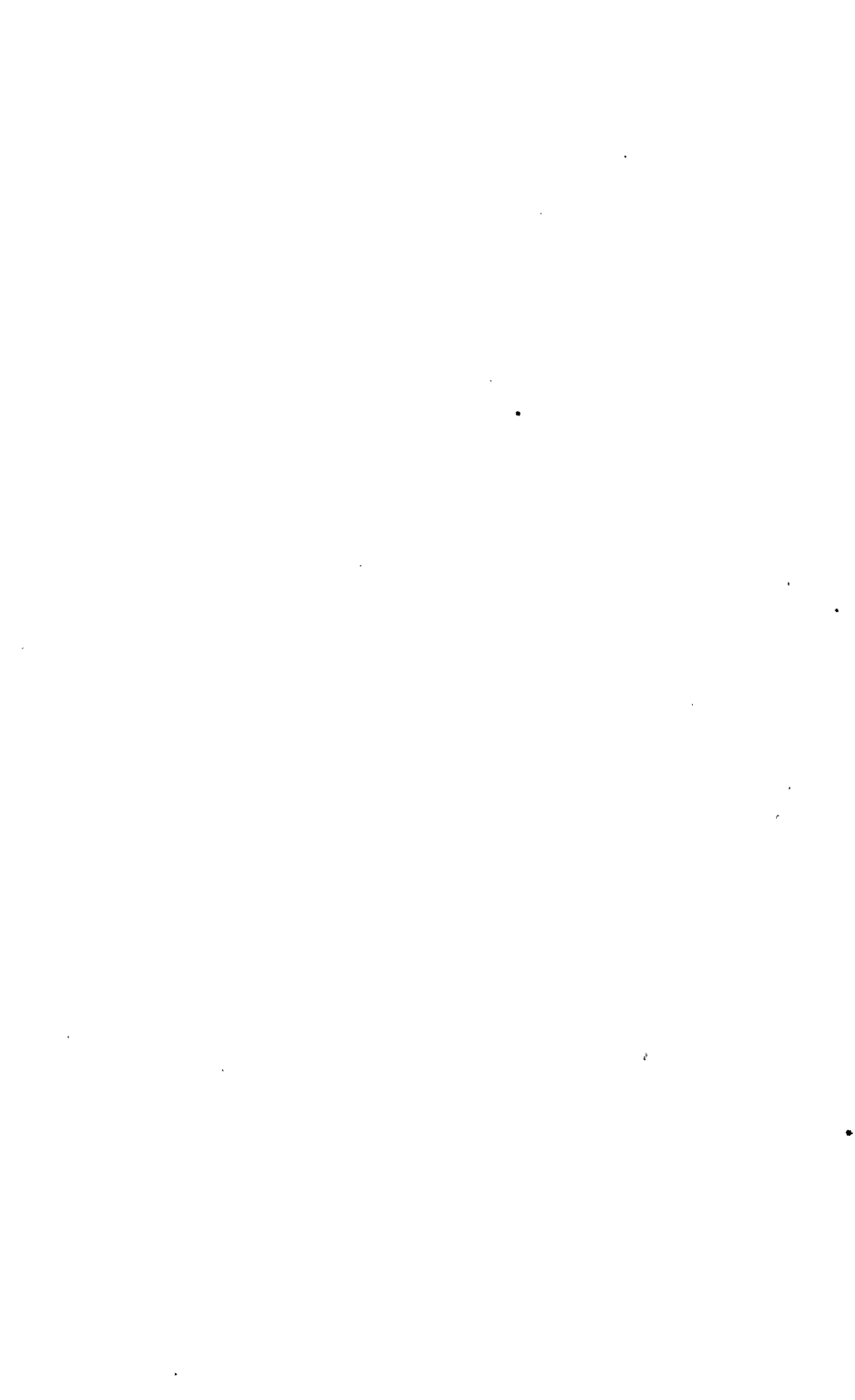
The manuscript here printed was received from the author in the summer of 1890, and an abstract of the paper was read before the Anthropological Section of the American Association for the Advancement of Science at the Indianapolis Meeting on August 25, 1890, and is printed in the Proceedings of the Meeting. The drawings illustrating the present paper were made under the author's direction in Dresden, and are here reproduced by the photographic process.

F. W. PUTNAM,

CURATOR OF THE MUSEUM.

CAMBRIDGE, MASS.,

SEPTEMBER 24, 1890.



THE ATLATL OR SPEAR-THROWER USED BY THE ANCIENT MEXICANS.

My interest in the spear-thrower *per se* was first aroused by the perusal of Prof. Otis T. Mason's important monograph "On the Throwing-sticks in the National Museum," published in Part II of Smithsonian Report for 1884. Dr. Max Uhle's valuable contribution on the spear-throwers used by American tribes¹ directed my attention to the existence of the ancient Mexican atlatl, and thus gave the direct incentive to an investigation, begun in October, 1887, the results of which I now offer as a sequence to the above publications.²

As will be seen, the statements about the atlatl made by the best known modern authorities on Ancient Mexico, are scarcely of a nature to encourage research with any prospect of success. Thus Dr. E. B. Tylor (Primitive Culture, 1873), after making the interesting observation that "the Aztec civilisation is the highest known to have used the spear-thrower, in reality a weapon of savagery," proceeds to state that "we do not hear of the atlatl being in practical use at the Conquest, when it had apparently fallen into disuse." Other writers, as we shall see, have expressed a similar opinion. Mr. Ad. F. Bandelier³ went so far as to appear to doubt its existence and habitual use in warfare though he states that Prof. F. W. Putnam had identified the Mexican atlatl with the throwing-stick of the Aleutians.

¹ Ueber die Wurfhölzer der Indianer Amerikas, Dr. Max Uhle. Mittheilungen der Anthropol. Gesellschaft. Wien, 1887.

² As Dr. Max Uhle in a communication dated Nov. 3, 1887, informed me that he had then discovered or identified a number of representations of atlatl in the Mexican and Maya codices contained in Kingsborough's work, it is to be hoped that this able ethnologist has continued to study the atlatl, and will impart before long the results of his labor.

³ Art of War and Warfare of Ancient Mexicans. Tenth annual report of the Peabody Museum, Cambridge, 1877, page 105, Note 37.

Mr. H. H. Bancroft¹ says that, although "some writers mention a *ballesta*, a sort of cross-bow, to launch the javelin, he had not found any description of its form or the manner of using it." This writer adds however: "it may be that this *ballesta* was a somewhat similar implement to that used by the Aleutians and Isthmians." Señor Orozco y Berra, the learned Mexican historian, frankly confessed that the structure of the *atlatl* was unknown to him.² His compatriot, Señor Alfredo Chavero, recognized, however, its use and even made an inference as to its construction, based on its known representations in the Vatican and Aubin Codices.³ Professor Valentini⁴ recognizes the existence of the *atlatl* and its use by the Indians in Mexico, but comments how surprising it is "that no express notice of it was taken by the chroniclers and especially that Cortes and Bernal Diaz, two experts in Mexican warfare and careful reporters, passed in absolute silence over the peculiar contrivance which they needs must have seen in the hands of their opponents and which, for various reasons, could not have failed to attract their notice."

After reading these statements I was surprised to find that there existed in the old Spanish Chronicles, a number of scattered notices establishing, beyond a doubt, the general use and important rôle performed by the *atlatl* at the time of the Conquest. The next step was to refer to several well-known pictures of the *atlatl*, contained in the Vatican, Telleriano-Remensis and Aubin Codices, authenticated as such by contemporary texts. Familiarity with these enabled me to recognize an unexpectedly large number of representations of the *atlatl* in other Codices and, what is more important, to identify it as the hitherto unknown weapon held by the sculptured warriors on the so-called Sacrificial Stone of Mexico and on bas-reliefs of Chichen-Itza, Yucatan. These carved representations, and the colored pictures in the Codices are so minutely and carefully executed and so clearly reveal both structure and method of use that they fully compensate for lack of detail concerning these points in the Spanish Chronicles. Indirect evidence and finally the Nahuatl text of Sahagun's invaluable Manuscript Historia, which I had occasion to study in Florence this winter,

¹ Native Races, vol. II, p. 410.

² Historia Antigua de Mexico, vol. I, p. 240.

³ Mexico á través de los Siglos, p. 615.

⁴ Two Mexican Chalchihuites. Proceedings of the Am. Antiquarian Society, 1881.

contributed to reveal a complete view of the curious evolution of the spear-thrower in Ancient Mexico.

We seem to see the native huntsman using it, in its simple, primitive form, to launch the harpoon at the fish and aquatic fowl of his native lagoons or hurl it in savage warfare at his enemy. In numerous pictures we find it exhibiting elaborate decorations, curious conventional forms, and serving as a mark of chieftainship and priestly rank. We finally recognize ceremonial forms of the atlatl in the hands of Aztec deities and in the precious emblem borne aloft in certain religious processions. The following data prove, beyond a doubt, that the atlatl was in general use, in each of these forms, at the time of the Conquest, although it soon fell into disuse and became extinct.

To the Aztec mind the origin of the atlatl and spear was by no means shrouded in obscurity, but was accounted for by several myths and traditions. One of these is preserved in a Manuscript History written in Mexico in 1576.¹ The Nahuatl text relates that the Aztecs, during their migration, in the year 5 Cane, reached a locality which they subsequently named Atlacuihuayan in commemoration of the fact that whilst there, they invented the atlatl and yaomitl = war-arrow, or spear. The name Atlacuihuayan in this manuscript is ideographically expressed by the picture of an atlatl on which a dart rests. (See Pl. III, 6.) In the "Mexican Hieroglyphic Manuscript from the Boturini collection"² the same locality is designated by the rebus of a hand holding an atlatl. (See Pl. III, 26.)

Notwithstanding these seeming corroborations, there are strong reasons to believe that the localized invention of the atlatl had absolutely nothing to do with the origin of the name Atlacuihuayan. Indeed, the probability seems to be that this part of the tradition took its rise from the circumstance that an atlatl was occasionally painted as the hieroglyph of the town. But it could have been thus employed for its phonetic elements only. In other MSS.³ we find the same name equally well expressed by a rebus consist-

¹ This MS. has been published in facsimile by J. Desportes, Paris. For further mention of this tradition see Duran, *Historia*, I, p. 81; Orozco y Berra, *op. cit.* I, 240; A. Chavero, *op. cit.* and others.

² Mexican Antiquities, Lord Kingsborough, vol. I.

³ See Orozco y Berra, *Atlas to Historia* and Antonio Peñafiel: *Nombres Geograficos de Mexico*, Mexico, 1885.

ing of a jug from which water is overflowing.¹ On the whole, however, the above tradition merits respectful consideration and is of unusual importance and interest when compared with further testimony yielded by the pictorial accounts of the Aztec migration. In each of the MSS. mentioned above and in Padre Duran's Atlas the Aztecs are pictured as starting on their migration armed with bows and arrows only. Now, our tradition merely makes the plausible statement that when the Aztecs reached the Valley of Mexico and were forced to seek their food in the lagoons which abounded in fish and fowl, they naturally adopted the most practical instrument for aquatic chase. This was the atlatl and its inseparable adjunct the harpoon or spear.

A second tradition recorded by Padre Sahagun² relates that it was Opochtli — a simple mortal though called a god, who had invented the harpoon and taught its use to the Mexicans, as well as that of oars, fishing-nets and bird snares. His inventing the harpoon seems to explain why Opochtli was also Amimitl, for this name literally means: water-arrows = harpoons.

But the use of the spear in warfare was supposed to have been taught by Huitzilopochtli, the hero war-god. A well-known myth, to which I will revert, relates that he had come to life ready for warfare, "armed with a spear, an atlatl and a shield." A tradition, as recorded by Torquemada,³ tells that it was this Indian Mars who incited the Mexicans to battle and had given them the weapons with which they fought, namely, the long spears made of cane stalks and tipped with obsidian, which they threw with a certain implement called "atlatl." It is noteworthy that, in the above

¹ This rebus has been analyzed as meaning "the place whence water is fetched."

That the first syllable of Atlacuihuayan is *ātl*, water, is proven by the fact that, in Carochi's Grammar, this name is printed with an accent on the first syllable.

This would connect Atlacuihuayan with the verb "atlacui" = to draw water from a well; and with the nouns, *atlacuihuani* = water-bucket, and *atlacui* = water-carrier.

In the invaluable old map of the City of Mexico, recently discovered in the University Library at Upsala, Sweden, I had occasion to note that the partially corrupted name Atlacubaya, written in Spanish text, is accompanied by a jug with overflowing water.

Buschmann (*Über Aztekische Ortsnamen*, p. 25), gives the original name of Tacubaya as *Atlaucucloayan* and refers to Bezerra Tanco as his authority. This name would signify "place of the winding brook." Topographical testimony seems to corroborate this etymology—for in the above map the town, represented as a group of houses and a steepled church, is painted as bounded on three sides by a winding stream which describes several unusually deep curves during its comparatively brief course.

² *Historia de las cosas de Nueva España*, lib. I, cap. XVII.

³ *Monarquía Indiana*, Madrid, 1723.

traditions, absolutely no mention is made of the *maguauitl* or obsidian sword, or of the lance—nor are there any traditional accounts of their origin. Although these were in general use we are told by the high authority Herrera¹ that “the spear was the weapon most dreaded by the Spaniards.” Its use and deadly effect have, in fact, been recorded in at least a few words by each of the old Spanish chroniclers.

Cortes relates how the inhabitants of a certain village attacked his soldiers “*throwing many spears and arrows at them.*”²

Bernal Diaz mentions how, in the Spaniards’ first battle with the Tlaxcallans, the ground was strewn with innumerable spears (*varas*) all with two barbs. “These,” he adds, “could traverse any sort of armor and against them there were no means of protection.”³

The brave old soldier records later (p. 46), how “the Tlaxcallans had thrown, *with throwers*, spears armed with one or two barbs” and in describing what he saw in Montezuma’s arsenal (p. 67), he again mentions: “spears, some with two and some with one point, and *their throwers.*”

The Anonymous Conqueror⁴ describes “spears thrown by a cross-bow *made of another piece of wood.* These spears were tipped with obsidian or with very sharp, strong fish bones. Some had three points and inflicted three wounds at once.”

Ixtlilxochitl terms the spear, *lanza arrojadica*, whereas Padre Duran⁵ names it *fisga* or *vara arrojadica*, literally “spear which was thrown” and characterizes it as “a very dangerous weapon, because, on account of its barbed hooks like those of a harpoon, it cannot be removed without making a large wound — unless it can be taken out at the opposite side.”

Torquemada⁶ states that a battle was usually opened by a volley of “spears *thrown* by means of a shuttle (*jugadera*), with great strength and velocity.” *Mendieta*⁷ makes the same statement in the same words.

Padre Sahagun⁸ distinctly mentions that “the instrument with which spears were thrown was called *atlatl.*”

¹ *Historia General*, Madrid, 1601, vol. I, p. 185.

² *Historia de Nueva España*, ed. Lorenzana, p. 51.

³ *Historia Verdadera de la Conquista*, Madrid, 1632, p. 45.

⁴ Ed. Icazbalceta, Mexico, 1858, p. 372.

⁵ *Historia de las Indias*, Mexico, 1867 and 1880, vol. I, p. 121.

⁶ *Op. cit.*, II, 539.

⁷ *Historia Ecclesiastica*, Mexico, 1870, p.

⁸ *Historia de Nueva España*, lib. II, cap. 29.

Fray Diego de Landa¹ tells us that the inhabitants of Yucatan had learned the use of weapons and the art of warfare from the Mexicans and that they had "a certain way of throwing spears by means of a stick, about 3 fingers thick and 6 *palmos* (about 18 inches) long, which stick was perforated at one-third of its length and with it and certain cords, the Indians threw with strength and certain aim."

Finally Tezozomoc² in his graphic description of the military drill performed by the Tlatelulcan warriors preparatory to their rebellion against Mexican supremacy, specifies their use of "sticks hardened by fire" (*varas tostadas*) called *tlatzontectli*, and spears called *minacachalli*. The latter had three points, he says, and "were thrown by means of a stick nine inches long, called *atlatl*, which *atlatl* was the *thrower* = *arrojadero*, of the *minacachalli*."

Now Sahagun (*op. et loc. cit.*) distinctly states that the harpoon for killing fish invented by Opochtli was named *minacachalli*. It is interesting therefore to actually find Tezozomoc recording how the Tlatilulcans were ordered out in canoes, by their chief, to practise throwing their *minacachalli* at flying ducks preparatory to using them, in battle against their enemy. This double use for the harpoon or spear satisfactorily explains the somewhat puzzling use, recorded by Clavigero and after him by other writers³ of a cord attached to the spear and fastened to the arm of the individual using it. Clavigero, who is by no means a first rate authority, but has enjoyed popularity, explains that the cord was used for pulling the spear out after inflicting a wound. Now in warfare a firm bond connecting a man with his wounded and infuriated foe would have obvious inconveniences, especially if the barbed spears were as difficult to remove as we have been told they were. On the other hand, in aquatic chase such a cord would fulfil the important and useful purpose of securing prey and preventing the loss of the harpoon. I am therefore inclined to agree with Señor Orozco y Berra who expressed his belief (*op. et loc. cit.*) that Clavigero was unconsciously referring to harpoons as used for killing fish and not as used in warfare, in the above passage which lacks, moreover, the support of other evidence.

¹ *Relacion de las cosas de Yucatan*, ed. Brasseur de Bourbourg, p. 46.

² *Cronica Mexicana*, Mexico, 1878, p. 878.

³ *Historia Antigua*, ed. Mora, Mexico, 1844, p. 217. *cf.* Brasseur de Bourbourg, *Hist. Nat. Civ.*, III, p. 594; H. H. Bancroft, *Native Races*, II, p. 410; A. Bandelier, *op. cit.* p. 105; and others.

Now the use by the ancient Mexican of an *amiento* or strap for the purpose of throwing the spear has been stated, in contradiction to the mass of evidence, by a few old Spanish writers whose words have been quoted by some modern authorities. In Molina's dictionary we actually find the word *atlatl* translated by *amiento*, one of several Spanish words for *strap*. Only a prolonged search has enabled me to find the explanation of the strikingly inappropriate use of the term "strap" for a wooden throwing-stick. The explanation is as follows: and though it may seem, as I hope it will, very simple and evident, I can affirm that it was most difficult and perplexing to find.

I have already stated that Bernal Diaz mentioned spears which the Indians "threw with throwers." He uses the expression *tirar con tiraderas* and it is evident that by *tiradera* he merely meant to express the verbal noun of the verb *tirar* which he used immediately before, to describe the action. He employed the expression *tirar con tiradera* in precisely the same way and with the same signification as Torquemada and Tezozomoc respectively wrote, *jugar con jugadera* and *arrojar . . . con arrojadera*. Each of these old Spanish contemporaries thus described in synonymous verbs and verbal nouns the action, to throw (a spear) with a thrower.

Now the word *jugadera*, from its original meaning of "thrower" has come to be the specific name for a certain kind of "thrower:" a shuttle. The word *tiradera*, though it simply meant "thrower" and was employed in this sense, as will be shown further on, by others than Bernal Diaz, was also used by some old writers for the thing thrown, namely, the spear, sometimes termed "vara arrojadiza." *Tiradera*, however, also meant *strap* and was therefore synonymous with *amiento*, the more general term for strap, though its application is usually limited to that strap used to fasten the helmet under the chin.

The chronicler and compiler *Herrera*, who, I believe, never left Spain, but is known to have consulted the MS. History of the Conquest written by Bernal Diaz, evidently came across the word *tiradera* and, having no practical knowledge of Mexican spears and their throwers, inferred that a *tiradera* was an *amiento*. And thus we find him recording¹ that the same Tlaxcallans whom Bernal Diaz had seen, "carried spears with *amientos* which they threw with such force as to cleave a door."

¹ *Op. cit.* Dec. II., lib. VI, cap. VI.

Having once been admitted and employed in connection with Mexican spears, the word *amiento*, the false substitute for *tiradera*, asserted itself and with the recognized vitality and success of errors found its way into a series of books. But its falsity and absolute inappropriateness are often evident. Just see, for instance, how the writer of the Italian text to the Vatican Codex¹ retains this Spanish word and, in describing the picture of a warrior on Pl. LXXXI, says: "that which is held in the right hand is an *amiento* [*strap!*] made of wood, with which they throw a spear with great force." The English translator of the same text² rather cleverly translated this as *a kind of wooden sling*. On referring to the picture we find a substantial, well-drawn atlatl in the warrior's hand (Pl. III, 16).

Again notice how Padre Duran's use of the word is proven to be wrong by his own illustration. He relates that "a certain image . . . held, with a threatening gesture, a spear which was set in an *amiento*." Examining the picture of this image in his Atlas we find the spear, not set into a strap but distinctly lying on an atlatl of well-known form, made of a recurved piece of wood provided with lateral finger-pegs.

The Aztec word atlatl or atlatli, as it is sometimes found written, is intimately connected with the verb *tlāçā* = to aim, to throw or cast (Spanish: *tirar*), the frequentative of which is *tlatlaçā*.

From this verb a whole series of words is formed:

tlatlaçaliztli = the act of throwing, etc.
 tlatlaçalli
 or tlatlaxtli } the object thrown.
 tlatlaztli
 tlatlaçani = the thrower.

Now we also find the verbs *atlauiā* and *atlacopa* or *atlatica nītl-amina*, meaning: to throw a dart with an atlatl.

Considering that the original use of the atlatl was in aquatic chase by the *atlacatl* or fishermen, whose name is a synthesis of *atl* = water and *tlacatl* = men, I venture the suggestion that the word atlatl may primarily have been a synthesis formed with the verbal noun *tlatlaçani* = thrower and *âtl* = water. This would give the word *atlatlaçani*, meaning "water-thrower," not an unfit name for

¹ Lord Kingsborough, Mexican Antiquities, vol. v.

² Lord Kingsborough, Mexican Antiquities, vol. vi.

the harpoon-thrower of the water-men. However, this is, as I said, a suggestion only, and I refer the question of the exact derivation of "atlatl" to the consideration of Mexican philologists.

Let us now review the scattered testimony I have brought together from the writings of the highest authorities on Ancient Mexico. It proves beyond a doubt, that the spear, thrown by a wooden atlatl, was not only in general use at the time of the Conquest, but was acknowledged by the Spaniards to have been the most effectual weapon of the Aztecs.

These, it seems, had only adopted it and acquired proficiency in its use from the time they took up their abode in the Valley of Mexico where they found themselves forced to resort to aquatic chase. Up to that time their chief arm had been the bow and arrow just as, at the time of the Conquest, it was that of the Chichimecs, of the Mountain Indians and of those tribes that dwelt inland and hunted chiefly birds and small game.¹

Doubtless the people inhabiting the coast regions originally used the harpoon for fishing and occasionally in savage warfare, just as the Aztecs did. But this tribe of fierce warriors and conquerors seems to have been the first to create a purely military and a ceremonial form of atlatl.

What the Mexican spear-thrower was like when it had reached its utmost development can best be learnt by examination of its numerous representations in sculpture and in the Codices, the majority of which are contained in Lord Kingsborough's monumental work, for the three specimens of genuine Ancient Mexican atlatl preserved respectively in Rome, Berlin and London, and to which I shall refer more particularly, are comparatively simple and incomplete.

A first glance at the strange and complex figures on Plates II and III may somewhat nonplus the beholder. When he observes their variety and actually finds that there are no two specimens exactly alike, even among many taken from the same Codex, he may well be tempted to inquire: how can one determine that these are all atlatl? It is a fortunate circumstance that, when a native

¹ "The Chichimecs . . . were always armed with bow and arrow so as to be always ready to hunt," Sah., *op. cit.* lib. X, cap. XXIX; *cf.* Bernal Díaz, *op. cit.* p. 74. The bow and arrow is also recorded as the principal arm of the inhabitants of Michoacan, Orozco y Berra, *op. cit.* II, pp. 589, 594.

artist pictured a warrior or deity with an atlatl in one hand, he generally painted one or more spears, a shield and a banner in the other. These together constituted the complete accoutrement of one grade of war-chiefs. Now it sometimes happened that he omitted one or the other of these; but, as will be seen by referring to my index to Plates II and III it is an exceptional case when an atlatl is not accompanied by some other part of military armor.

In cases of doubtful looking atlatl the presence of the spear, as an accessory, may be adopted as a convincing proof of a correct identification. On the other hand, the absence of the spear does not constitute disproof. Indeed had I excluded all atlatl pictured without accessory spears, from my illustrations, I should have been obliged, strange to say, to reject some of the most important representations of atlatl we have; important because of the few whose authenticity is established by the contemporary texts of the Codices containing them.

On Plate 32 of the Vatican Codex A a personage is painted with what the text terms a "blue atlatl" in his right hand (Pl. III, 1). His left hand is empty and he is not in strictly military costume.

On Plates 81 and 82 of the same Codex, war-chiefs are pictured holding an atlatl (Pl. III, 16 and 17) in one hand and a shield and banner only in the other. I have already quoted the text describing one of these atlatl as "a kind of wooden sling." These cases prove that a genuine picture of an atlatl is not invariably accompanied by a spear or even by other parts of military armor.

Let us examine the few other atlatl identified as such by contemporary texts.

Pl. III, 2, from the Vatican Codex A, is described as "a certain sort of arm as a bow;" 22, from the same source is termed "a certain weapon which they name Xiuatlatli (literally "blue atlatl"); 10 is merely named "Xinhatlatli" in the text to the Telleriano-Remensis Codex. Leaving these "described and labelled" specimens let us pass on to those for whose identification, with one or two exceptions, I alone am responsible.

I have endeavored to classify my collection of atlatl and divided them into two classes.

Class I answers to Fray Diego de Landa's description being usually provided with one or more finger holes at about one-third of its length. It includes:

1, atlatl with a single large circular finger hole. *Type specimens*, Pl. II, 1 and 20.

1a, ? atlatl with a double hole. *Unique specimen*, Pl. II, 9.

2, atlatl with two small holes in the body of the implement. *Type specimens*, Pl. I, 4, and Pl. II, 15.

2a ?, atlatl with three holes in the body of the implement. *Unique specimen*, Pl. II, 16.

3, atlatl with two lateral rings attached externally. *Type specimens*, Pl. II, 6, and 3, b; also the three existing specimens of atlatl.

Class II is distinguished by being provided with lateral finger pegs placed exactly opposite to each other instead of holes or rings. *Type specimens*, Pl. III, 26, 30-33; cf. 16 and 17.

Let us take a rapid survey of Class I.

1. In the hands of sculptured warriors, Pl. I, 1 to 5, 6b.

2. In groups of armor also carved in bas-relief, Pl. II, 3a, 3b, 6, also Pl. I, 6a.

3. In the Codices, Pl. II, 1, 2, 4, 5, 7, 20-27. In this series we can first study the atlatl by itself (Pl. II, 3a, 3b; I, 6 and 6a), then learn by ocular demonstration how the index and middle fingers were inserted into the hole or holes whilst the other fingers and thumb grasped the handle.

We have front views, Pl. I, 2, 3, 6b; II, 14, 15, 16, and back views, Pl. I, 5; II, 1, 2, 4, 5, 7-12, 17, of the hand and inserted fingers holding the atlatl ready for use.

We see it also simply grasped by its handle, Pl. I, 4; II, 21-27, and finally have its instantaneous though distorted picture in the very act of launching the spear, Pl. II, 18, 19 and 20.

We perceive that it sometimes is ornamented with a flat covering of applied feather-work, Pl. I, 1-6b; II, 2, 3b, 7, 10, 11, 12, 14, 15, 22-25, 27, covered with tiger skin, Pl. II, 4 and 5, carved or painted with transverse bars, Pl. II, 1, 21, 26, adorned with tufts of feathers, Pl. II, 21, 23, 24 and 27, flexible tassel-like appendages, Pl. II, 7, 16, or long streamers, Pl. II, 9, 12. We observe that the atlatl itself is generally painted blue while the decoration is of many colors.

Having learned all these interesting details from the old manuscripts, let us leave them for a moment and study the three existing specimens of Ancient Mexican atlatl which have come under my notice. The finest of these is in the Museo Kircheriana in Rome where I had the privilege of examining it closely in May,

1890. The British Museum specimen ranks next in excellency of workmanship and is moreover the most complete. It still retains one of the two finger rings made of shell, that were originally attached to its handle. The third specimen is at the Museum für Völkerkunde in Berlin, where I saw it in 1888. The three specimens consist alike of a long straight piece of a very hard and fine-grained wood (zapote?). Each is provided with a central "spear shaft groove" ending with a "hook or spur" and each must have originally had lateral finger rings, attached like those of the London specimen. I have much pleasure in acknowledging the courtesy of Signor Cav. Pigorini, the director of the Kircheriana Museum, to whom I am also indebted for the following measurements of the atlatl in the Mexican collection :

| | | |
|---------------------------|-----------|---------|
| Total length | | 558 mm. |
| Maximum width (upper end) | | 37 mm. |
| Minimum " lower " | | 19 mm. |
| Length of groove | | 492 mm. |
| Maximum width of groove | | 6 mm. |
| Minimum " " " | | 4 mm. |

This specimen is ornamented with very finely and skilfully executed carvings, in low relief, of human figures and symbols. These cover both sides of the atlatl and extend from its upper end to the end of the groove. The *finish* and *execution* of the carving though in lower relief recalls that we are accustomed to see on Chinese camphor-wood boxes. The outlines of the figures strikingly resemble those of the drawings in the Vienna Codex. Two standing and four seated human figures are carved on the back of this atlatl. On the front, on both sides of the groove, besides human figures, I counted one representation of a serpent and no less than five finely carved serpents' heads. (It is an interesting fact and one to which I will revert, that the serpent symbol is carved on each of the three specimens I have mentioned.) On the space between the base of the groove and the upper end of the atlatl a larger spread figure of a warrior (Huitzilopochtli?) is carved. His head is so curiously placed that it is a projection from under his chin that forms the hook or spur for launching the spear. In the right hand he holds what looks like a double-barbed point of a harpoon ; in the left, a bundle of light darts across which a serpent's head is carved.

The whole surface of the carving is covered with a fine layer of purest gold in fairly good preservation.

The British Museum specimen also exhibits traces of gilding. I have come across the records of two throwers (*tiraderas*!) of gold which were sent to Charles V by Cortes.¹ The second one, described as "a thrower of gold in the shape of a bishop's crosier" (*una tiradera de oro á manera de baculo*), was of massive gold and its weight is given as 368 *pesos de oro*, the exact equivalent of which in our weights, I have not been able to determine.

Let us cast a glance at the hitherto unrecognized representations of atlatl on the bas-reliefs of Chichen-Itza, Yucatan, and on the so-called Sacrificial Stone in the city of Mexico.

In his publication on the latter monument (*Anales del Museo Nacional*, tomo I, page 31) Señor Orazco y Berra wrote: "The weapons held by the prisoners . . . are two arrows held with their points upwards. The object offered with the right hand does not represent "flowers," as Humboldt and Nebel believed, but is a weapon, as Ramirez determined. It is the sacrificial knife, and is the symbol for sacrifice. It is made of silex = *tecpatl*, and not of obsidian = *itztli*, and is characterized by being mounted on a handle of wood by which it was held so as to protect the hand using it. It had a guard (*tope*), the purpose of which was to prevent it from penetrating beyond a certain depth."

Señor Jesus Sanchez (*Anales del Museo Nacional*, tomo III, page 133) likewise describes the object held as "a certain kind of stone knife furnished with a guard." Reference to Pl. I, fig. 6b, will convince the reader that this weapon is an atlatl, the complement to the two spears held in the left hand. The same form of atlatl will also be recognized in fig. 6a below the shield held by the warrior, besides two spears and a banner = *macpanitl*.

Stephens (*Incidents of Travel in Yucatan*, vol. II, page 309) was the first to note the general resemblance between the sculptured figures on the "Sacrificial Stone" and on the walls of the chamber at Chichen-Itza. It is strange that this careful observer should have overlooked the weapon represented in the right hand of the Chichen-Itza warrior, and described these warriors as "carrying a bundle of spears or a quiver of arrows" only.

M. Désiré Charnay (*Les Anciennes Villes du Nouveau Monde*, page 308) made a special note of the truly remarkable resemblance between the carvings of both monuments and went so far as to state

¹ Coleccion de Documentos Inéditos del Archivo de Indias, tomo 12, pp. 349 and 352.

that the personages on each carried identical weapons. But M. Charnay described the weapon held in the right hand as a "sacred knife," and identified it with the ceremonial knife made of painted wood, mentioned by Sahagun (lib. II, cap. 37). The fact is that the resemblance noted by Stephens and Charnay, is a more significant one than either supposed. For both of these monuments, widely separated though they are, exhibit atlatl of precisely the same shape, proportion and decoration, represented as held in the same manner.

This similarity, which may be partially studied by means of Pl. I, is all the more remarkable when contrasted with the extreme variety and diversity of forms of atlatl observable in even a single Codex. And the likeness of the Chichen-Itza and Mexican sculptured atlatl is all the more significant as it coincides with other facts which I will present, with my conclusions based thereupon, in a future communication.

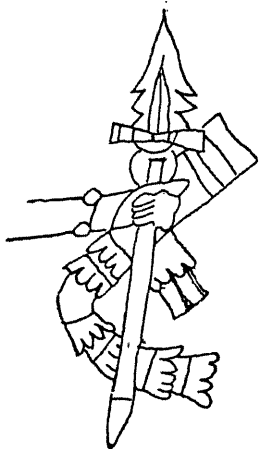


FIG. 1.

From Vatican Codex A, 70.

Visitors to the National Museum at Washington and the Peabody Museum of American Archaeology and Ethnology at Cambridge can have the privilege of becoming acquainted with these extremely interesting bas-reliefs by means of their admirable casts made by M. Désiré Charnay. The four nearly life-sized warriors sculptured on the two stone posts of a doorway in the building

known as the "Tennis Court," in Chichen-Itza, are of special importance. They show us that besides several long light darts, and an atlatl, a warrior also carried a short heavy spear provided with a large barb, single or double. This can be seen projecting from the peculiar quivers over the left arms of figures 1 and 2, Pl. I. A quiver recalling that of fig. 1 and a large spear with double barb are represented on page 70 of Vatican Codex A. A warrior holds these in one hand (see fig. 1) and a peculiar atlatl in the other (Pl. II, 8). I was struck by the resemblance of this double barb to the one in the hand of the personage carved on the atlatl preserved in Rome. The fact that he holds such a barbed spear point and also

a bundle of light darts, leads to the inference that the atlatl he is carved on was intended to launch both missiles. It is interesting to find the Chichen-Itza warriors similarly armed.¹

Returning now to the pictures of atlatl taken from the Codices, we find that the existence of a spear-shaft groove and hook could scarcely be inferred from the front views (Pl. II, 14, 15, 16), of atlatl of the same type as the sculptured ones.

Indeed the only representations of atlatl I know of, in which the spear-shaft groove and hook are distinctly visible, are those carved on the bas-reliefs of Chichen-Itza (Pl. I, 2, 3 and 4). But as soon as the artist began to make a drawing of the atlatl held ready for use or actually launching the spear he was forcibly reminded of the important role performed by the hook. In endeavoring to reproduce this he seems to have sometimes exaggerated its proportionate size. At all events, he drew it *en profile* though retaining the back view of the hand and of the finger holes and handle of the atlatl (Pl. II, 2, 13, 17-20). This distorted drawing was evidently adopted as one of the conventional ways of picturing an atlatl, and it will be well to bear the possibility of exaggeration and distortion in mind whilst studying all pictures in which the hook is visible. It is, of course, quite impossible for us to judge of the fidelity with which the artist may have drawn the proportions of the hook. The existing specimens and the carved reproductions exhibit a small hook not rising above the level of the sides of the groove. On the other hand, we shall find a prominent hook pictured in a variety of forms and dimensions and also learn that the large recurvation of one ceremonial form of atlatl caused this to be compared, by the Spaniards, to a bishop's crosier.

In figs. 2, 13, 17, 18 and 20, Pl. II, we find the hook or spur consisting of a square projection. In fig. 19 this is modified to a point.

Figs. 28, 29, 31-34, Pl. II (from the Maya MS. of the Dresden Royal Library), fig. 37 (from the Troano MS.), and 7, 10, 12 and 13, Pl. III (from various Mexican MSS.), exhibit a curious recurvation vaguely recalling the fiddle-head ornament of the Ungava throwing stick described by Prof. Otis T. Mason.

¹ The curved weapon in the left hand of fig. 1 is likewise represented as held by the personage sculptured on the inner face of the left door post and also by those on columns in the Castillo de Chichen-Itza. Is it an atlatl like that engraved on the Humboldt celt (Pl. II, 39) ? or a sort of a club ?

Fig. 34 is unique and of special note on account of thongs represented as passed through and hanging from the atlatl. This specimen is from the Dresden Maya MS. and I refer again to Fray Diego de Landa's statement that the natives of Yucatan used "certain cords" with their spear-throwers (p. 10). Another unicum, provided with a finger-ring (Pl. II, 39), is that engraved on the Humboldt celt and identified by Prof. Valentini.¹

Figs. 35, 36, 40, Pl. II (from the Dresden MS.), fig. 38 (from the Troano), figs. 1, 2, 4 and 5, Pl. III, already referred to, terminate in a more or less sharply recurved hook.

Passing on to the atlatl of Class II, with characteristic finger-pegs, we find the same square projections as distortedly drawn, Pl. III, 26, and the sharp hooks, Pl. III, 16, 17, also 6, we have already noticed in Class I.

Now that we have duly studied the structure and practical side of the atlatl, let us investigate the interesting symbolic and ceremonial forms under which it reappears as part of the paraphernalia of some of the principal Aztec deities.

HUITZILOPOCHTLI.

In the vignettes illustrating the account of this hero god's miraculous birth, etc., contained in the Laurentiana MS. of Sahagun's *Historia* (lib. III, cap. 1), we find him depicted with a shield, one or more spears and an atlatl. This is curiously carved in the semblance of a serpent and is provided with lateral finger-pegs (Pl. III, 32, 33). The Nahuatl text relates that it was blue and was named *Xiutlatl* = blue, or turquoise, atlatl. To find these pictures of Huitzilopochtli with an authenticated and unmistakable atlatl of a blue color, in the shape of a snake, is a fact of no ordinary importance, for it affords a clew to the meaning of the Nahuatl names of his weapons recorded elsewhere in the same MS. It is several times repeated (*op. cit.* lib. I, cap. 1, and *Historia de la Conquista*, cap. 38) that these consisted of a *xiuhcoatl* and a *mamallhuaztli*. Literally translated, *xiuhcoatl* means: blue or (turquoise) serpent. *Mamallhuaztli* is, in my opinion, the verbal noun of the verb *mamali* = to cleave, to split, to force one's self into a crowd of people, and means literally: "the splitter, the cleaver," no unfit name for a spear.²

¹ Two Mexican Chalchihuites. Proceedings of the Am. Ant. Soc. April 27, 1881.

² I am aware that the name *mamallhuaztli* is generally applied, by modern writers, to "the stick used for making fire," although it is not to be found with this meaning in 188

Now Huitzilopochtli was not an ideal creation, an abstract deity, but a distinguished war-chief, about whose birth and life a halo of myth and romance had been posthumously thrown. He was a real personage, "a vassal, a mortal—also a mighty magician and a leader of battles." The weapons he had used were actually preserved as relics and it was believed that some of the power with which they had once been wielded had passed into them. For it is recorded as an historical fact, that during the final terrible struggle of the Mexicans, in a time of direst distress, the last of Aztec hero-chiefs, Quauhtemotzin, ordered the bravest of his warriors to take Huitzilopochtli's relics, the "blue serpent" and "the cleaver" and venture boldly into the ranks of the Spaniards, for he who bore them was invulnerable and could not be vanquished (Sahagun's Hist. Conq. l. XII, cap. 38).

Whilst it has been remarked before that the "xiuhcoatl" was the special symbol of Huitzilopochtli, it has not as yet been recognized that this "blue serpent" *was a name for his atlatl of symbolic form*. It is not difficult to imagine why, in the first case, the serpent was selected as an appropriate symbol for the swift thrower of a fatal dart. It is an interesting fact, moreover, that the serpent symbol is prominently carved on each of the existing specimens of Mexican atlatl. It is still more interesting, however, to ascertain, through authentic records, that atlatl, made in the shape of a serpent and inlaid with turquoises, were in real ceremonial use at the time of the Conquest.

It is a well-known fact that, soon after the landing of Cortes, Montezuma sent him by messengers, as presents, priestly ceremonial vestments and insignia, such as were worn in religious solemnities by the high priests or living representatives of Aztec gods.¹ Among the insignia of Quetzalcoatl, the title, in this case,

Molina's or M. Rémi Siméon's dictionaries. In these it is only recorded as the name given by the Ancient Mexicans to the constellation Gemini. In the Nahuatl text of Sahagun's MS., the stick used for making fire is termed "tlequauitl" literally=fire (tletl), stick (quauitl), (*op. cit.* lib. VII, cap. IX). But the Spanish text describes this as being "long and thin, like an arrow or dart." We know that sticks with points hardened by fire were thrown by atlatl, and Sahagun's MS. contains numerous illustrations of such (Pl. III, 23). Tezozomoc terms these "varas tostadas" or tlazontectli." He mentions, however, a "vara tostada with three points" (*op. cit.* 392). As Sahagun informs us that all the cane-stalks *ollatl* employed as shafts for arrows or spears were first subjected to a process of hardening by fire, it would seem as though the term "vara tostada" was as appropriate for shafts simply sharpened to a point as for those tipped with obsidian or fish-bone.

¹ For the reasons why these insignia were sent to Cortes, see p. 35, my essay, "Standard or Head dress?" Peabody Museum Papers, Vol. I, No. 1, 1888.

of the high priest of Huitzilopochtli, Sahagun records in the Spanish text (lib. xii, cap. iv) : "a sceptre like a bishop's crosier, all inlaid with mosaic composed of turquoises; the upper curve consisted of a serpent's head bent or twisted over." Another "crosier like the above" is enumerated also with the vestments of Tlalocantecuiltli; a third "crozier inlaid with turquoises in whose upper curve precious stones or prominent pearls were set" is described with the insignia of the god Quetzalcoatl."

The Nahuatl text of the Laurentiana MS. of Sahagun's *Historia* simply terms the first crosier a "*xioatl atl* (blue or turquoise atl atl) made entirely of fine turquoises, of the serpent's-head form = with serpent's head;" the second crosier is termed a "*coatopil* = serpent staff, worked in mosaic," and the third an *heca wonecuilli* of bent or curved wood, inlaid with stars formed of white chalchilmiltes." Many of these presents were forwarded by Cortes to Charles V in July, 1519, and the descriptive inventory sent with them has, fortunately, preserved many interesting details that complete our knowledge of the modes of structure and ornamentation of the atl atl. It shows us also that two atl atl went to Spain as "sceptres," and that each was accompanied by four spears or "harpoons" of equal elaborateness. It seems probable that the following entry and description were those of Tlalocantecuiltli's coatopilli or serpent staff:

"A sceptre, inlaid with scarlet precious stones, made like a serpent with its head and teeth and eyes which look like mother-of-pearl. The handle is covered with painted leather and from it hang six small tufts of feathers."¹ Further on is the entry: "four harpoons with white obsidian points, fastened to shafts decorated with feather-work." It is a noteworthy fact that the *atl atl* and *spears* together constitute a single item in another part of the same *Memoria*: "idem. four harpoons, adorned with feathers, with points of stone tied on with gold thread *and* a sceptre inlaid with precious stones, with two rings of gold and the rest feather work." It is scarcely possible to identify this atl atl with one or the other of Montezuma's presents described above, although it must have been one of them. It is evidently this atl atl that Gomara² writes of as "a staff like a royal sceptre finished with two rings of gold that are garnished with pearls." His description of the harpoons is of special inter-

¹Coleccion de documentos inéditos para la historia de España, Memoria, tom. i, p. 461.

²Histoire de Méxique, Anvers, 1554. cf. Clavigero, *op. cit.*, ed. Mora, p. 250.

est because he calls them "four *tridents* each with three points, ornamented with featherwork of many colors. The points are of 'berrueco' (bone?) and are tied on with gold thread."

Now we find that Cortes sent, as a curiosity and present to his Grace the Bishop of Burgos, "a something like a crosier inlaid with precious stones of many colours."¹ So it seems that the three "crosiers" were sent to Europe. It need not seem astonishing that Cortes and his followers did not recognize or record the true nature of these "crosiers." It must be borne in mind that when these were received as presents and forwarded the Spaniards had not yet acquired a knowledge of the weapons used in Aztec warfare. Then these atlatl of eccentric shape, costly materials and elaborate decoration were certainly intended to be more ornamental than useful. They were ceremonial and symbolic and were destined for use in religious rites by the high priests or living representatives of the Aztec deities or in the decking out of their images. Both Tezozomoc (*op. cit.*, p. 94) and Duran (*op. cit.*, II, 81) describe Huitzilopochtli's "idol in the great temple of Mexico" as holding "in the right hand *what resembled a bishop's crosier*, made in the shape of a serpent, all blue, with undulations — in the left a shield and four arrows or spears." In the great festival in honor of this hero-god held in the month Panquetzaliztli we are told by Sahagun that his high-priest, entitled Quetzalcoatl, bore his idol in solemn procession whilst another priest carried the image of Paynal. These were preceded by a "mace-bearer with a sceptre in the form of a monstrous serpent, all covered with mosaic composed of turquoises."²

It is but lately that I came across the most interesting pictures of serpent atlatl in a scarcely known, but very valuable and important Mexican MS., preserved at the Biblioteca Nazionale, Florence.

The first of these (Pl. III, 29) to which I will revert, distinctly exhibits the characteristic lateral finger rings of Class I.

The second is represented in the picture of a personage clad in the habiliments of Huitzilopochtli and (Pl. I, 7) carrying four spears, a shield and banner besides the atlatl.³

¹ Coleccion de documentos inéditos del Archivo de Indias, tomo 12, p. 324.

² *op. cit.* Appendix to Book II, also chap. 34, book II of Torquemada, *op. cit.*, II, 282, who confounds the symbolic serpent atlatl with the banner also carried in procession.

³ This picture is of exceptional importance as it exhibits a head-dress with striking points of resemblance to the ancient Mexican feather head-dress preserved in Vienna and lends the strongest support to my view of the question. Readers of my essay on

The serpent-atlatl is not, however, exclusively represented with Huitzilopochtli.

XIUHTECUHTLI.

The splendid specimen with finger rings just mentioned, is painted in the hand of *Xiuhtecuhli*, as the text declares and on folio 89 of the same manuscript we find the same god, with well-known attributes, holding a shorter serpent atlatl besides a shield, banner and four spears. In the Vatican Codex A (p. 56) he is represented with a blue atlatl (Pl. III, 4) and a strange bent serpent staff in his left hand. The latter resembles the serpent staff held by Quetzalcoatl in the Vatican Codex B (21) and accompanied by a harpoon recalling fig. 1. In Tezozomoc (455) a serpent staff "coatopilli" is mentioned among the insignia of Quetzalcoatl.

TEZCATLIPOCA.

We also find this god with serpent spear-throwers: in Sahagun's Laurentiana Manuscript (Pl. III, 30 and 31), in the Borgian Codex, p. 22 (Pl. III, 27), and in the Ramirez Codex (x, 17) (Pl. III, 28). In his explanatory text to the latter,² Señor Alfredo Chavero describes this as "the weapon in the form of a serpent, the *xiuhcoatl*" without, however, directly identifying it as an atlatl.

QUETZALCOATL.

Let us now examine another ceremonial form of atlatl, that which we invariably encounter in representations of the god Quetzalcoatl.

We have already found its description among Montezuma's presents to Cortes. The Spanish text terms it a "crosier inlaid with

this historical relic ("Head-dress or Standard?" Peabody Mus. Papers, I, 1888) may be interested in having their attention especially drawn to the following details and in comparing them with the illustrations of the Vienna head-dress contained in the above essay.

1. Note and compare superposed central elevation, its proportions and decoration with discs.

2. The symmetrical design on the second concentric band above the forehead. A comparison of the coloring of this illustration is also desirable; the ground of the central portion is *blue* (the discs are left uncolored) and it is surrounded by an *edge of scarlet*. (Observe that "the most striking feature of the Vienna head-dress is a broad blue band edged with scarlet," p. 36, *op. cit.*)

Starting from the band above the forehead the colors of the concentric bands are as follows: 1, red; 2, left uncolored with pattern; 3, blue; 4, red; 5, green.

A long fringe of Quetzal tail-feathers surmounts the whole.

²Appendix to Duran's *Historia II*, Mexico, 1880.

turquoises, in whose upper curve precious stones or prominent pearls were set." The Nahuatl text has informed us that it was "of bent or curved wood on which were stars, formed of white chalchilmites."

Sahagun (lib. i, cap. v) likewise describes the idol of this god as holding in his left hand a shield, in his right "a sceptre like a bishop's crosier; its top was bent like a bishop's crosier and it was profusely inlaid with mosaic. But it was not as long as a crosier and that part by which it was held looked like a sword-hilt."

Duran (II, 119) relates that this "resembled a sickle, was of wood and painted black, white and red. Near its handle hung a tassel of white and black leather." This authority also states that the idol "carried a shield," but Torquemada (*op. cit.*, p. 290) states that, besides this, it held "a finely decorated spear, very large, with a point of obsidian of the shape and size of the iron points to one of our lances."

Referring first to the pictures of Quetzalcoatl's weapon in Sahagun's MS. (Pl. III, 24 and 25) we recognize in it a recurved atlatl with finger pegs. Its drawing is evidently distorted; the artist represented, as we have already had occasion to observe in other cases, a side view of the curve and a front view of the handle and finger-pegs. At a first glance its proportions strike one as exaggerated, but not unfamiliar, and it is interesting to compare figures 14, 15, 18, 19, 20 and 21, Pl. III, with the spear-throwers 1, 2, 4, 5 and 16 of Pl. III, and 36, 37, 38 and 39 of Pl. II. Figures 14, 19 and 50 of Pl. III represent specimens with smooth outline and transverse bands of color which recall Duran's description of "wooden sickles painted." Sahagun's illustrations however and fig. 18, Pl. III, exhibit ornamentation and have, moreover, a series of small balls placed along the outer edge of the curve. But this was, it is evident, only a conventional method of expressing the fact that these atlatl were inlaid or studded with precious stones. For we find real bishops' crosiers represented in the identical extraordinary manner by native artists, soon after the Conquest, figs. 2 and 3, p. 26. From these pictures we learn the interesting fact that whilst the Spaniards likened this form of ceremonial atlatl to a bishop's crosier, the Mexican artist, on attempting to delineate a crosier, drew it as he would an atlatl. Therefore, it is quite evident that the resemblance was a very strong one.

Now, let us produce our crowning proofs that this strange "crosier" was a ceremonial atlatl. It is generally represented, as we

have seen, accompanied by one part of military armor, a shield. In Sahagun's MS., it is also accompanied, in one instance, by spears; but in the Aubin Codex (appendix to Duran's Atlas) Tezcatlipoca (III, 19) carries it with a shield, banner and *two spears* and in the MS. of the Biblioteca Nazionale it is pictured as held by the god of the chase, Mixcoatl, along with *two spears*, a shield, banner and provision bag (Pl. III, 14). In this MS. the text informs us that it was named *Mixcoatl xonoquiltl*. As we have seen, Fray Sahagun, recorded the name as *heca xonecuilli* in the Laurentiana MS. of his Historia. Each of these names for the curved atlatl seems to be, in the first case, descriptive of its form.

The word "xonecuilli" or "xonoquiltl" is, I should say, a syn-

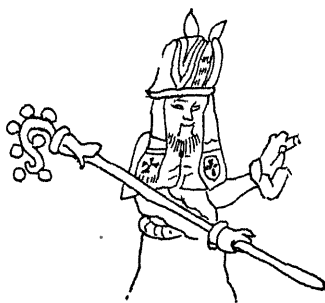


FIG. 2.

Bishop Zumaraja, first bishop of Mexico.
Telleriano-Remensis Codex, p. 30.



FIG. 3.

Archbishop Montufar. MS. His-
tory of Mexico, 1576.

thesis of the verbs *xotla* = to cut, to carve, to hew, or *xolochoa* = to bend or fold something, and *necuiloa* = to twist or bend something. It would, therefore, only mean "that which is curved, twisted or bent." Certain loaves of bread, made during the feast of the god Macuilxochitl, were also named "xonecuilli." We are told by Sahagun (I, 14) that "these were of the form of a stroke of falling lightning." Mr. Rémi Siméon, in a note to his admirable translation of Sahagun's Historia (p. 32), describes these as "loaves of the form of an S."

The fact that a stroke of lightning was symbolized by a certain form termed "xonecuilli," and that this was the name of a ceremonial form of atlatl illumines a whole series of obscure passages. Duran has recorded that Tlaloc's emblem "was of carved wood shaped like a stroke of lightning" (I, p. 306). He also re-

lates that Tlaloc's idol held in his right hand "*a stroke of lightning of wood, painted purple.*" This was undulated, like a stroke of wavy lightning falling from the clouds to the ground (II, 136). Tezozomoc (434) and Orozco y Berra (III, 360) tell us that Tlaloc's staff was called *ilapellaquauitl* or "staff casting out lightning."

To examine Tlaloc's emblems further would be to transgress beyond the limit of my subject. Suffice it, therefore, to have been confirmed in the knowledge that lightning and swift destruction were symbolized by a certain curved form, and that this form was that of a ceremonial atlatl.

It seems as though one could discern the line of thought that led the ancient Mexicans to associate lightning and (the closely allied) serpent symbolism with their military arm for throwing fatal missiles. They may have done so at first with the belief and hope of endowing their atlatl with the qualities they recognized in both destructive forces. It is easy to understand how, by gradual transition the forces themselves should come to be symbolized by the weapons and that these should become more and more emblematic and depart from their primitive form. This transition was taking place at the time of the Conquest and had reached its maximum in Quetzalcoatl's and Tlaloc's lightning-hurler and Huitzilopochtli's *xiuhcoatl* or turquoise serpent. But even in these ceremonial emblems the form and idea of the atlatl were far from being abandoned and were ever present. Nothing proves this more clearly than a figure of speech preserved by Padre Olmos.¹ From him we learn that, to express the idea that we might render by the phrase, "He smote the people," meaning a visitation of famine or pestilence, christianized Mexicans made use of an ancient metaphor and said, "He hurls (with) the *xiuhcoatl*, the *mamalhuaztli* upon them."

Let us now hastily review the atlatl represented with

TEZCATLIPOCA.

We have found him with the serpent-atlatl, Pl. III, 27, 28, 30 and 31, and with the lightning-atlatl, Pl. III, 18, 19.

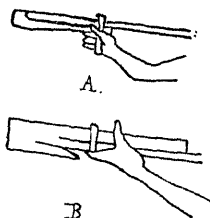
Duran (II, 106) and Tezozomoc (109) give a valuable indication by telling us that, in each town, there were two different idols of Tezcatlipoca.

In the great temples of Texcoco and the city of Mexico one

¹ Grammaire de la langue Nahuatl, édition Rémi Siméon, Paris, 1875, p. 227.

image was seated; in its left hand were a shield and four spears and in the right a spear. His arm was raised in threatening gesture as though he wished to throw it and this spear was placed in an "amiento = atlatl."

Both of these authorities give us pictures, by native artists, of this idol (fig. 4 *A*, *B*,) and both agree in their description of the second idol.



B.

FIG. 4.

A.—Duran's Atlas.
B.—Ramírez Codex.

It carried also *four spears* but we are told that in the other hand it held a "fan" of precious feathers. These were green and yellow and were fastened to a circular plate of burnished gold like a mirror . . . which fan was called "y tlachiyān." Duran's illustration corresponds to this description but pictures the circular plate as a hollow circle divided by lines into four portions.

Reference to Tezcatlipoca's picture in Sahagun's Laurentian MS. proves this "fan" to be a mis-described "tlachieloni," an instrument we find thus represented in the hand of this and other gods (fig. 5.) His description is contained in the chapter of this work

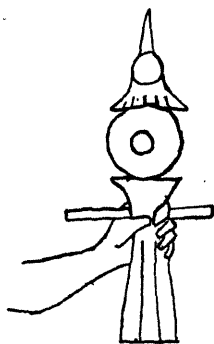


FIG. 5.

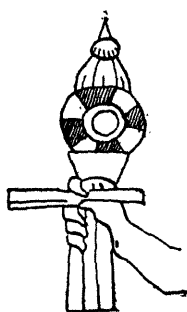


FIG. 6.

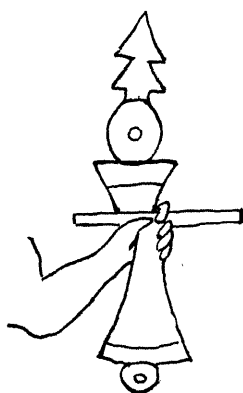


FIG. 7.

Sahagun's Laurentiana MS., Book I.

relating to Xiuhtecuhtli: "he holds in his left hand a shield; in the right what was like a sceptre (fig. 6). It was a circular plate of gold, hollow in the centre. This was surmounted by two balls, one smaller than the other, and there was a point on the top of

the smallest. They called this sceptre *Tlachieloni*, which means 'seer or looker,' for with it one could hide one's face and look through the circle of gold" (lib. I, cap. XIII). In the text relating to Opuchtli, the reputed inventor of the harpoon, it is described as "a sceptre like a monstrance or pyx, at the top of which projects an arrow point," from which one would scarcely recognize its picture in the same chapter (fig. 7). I do not hesitate in identifying this "*tlachieloni*" as a badly drawn ceremonial form of the *atlatl* provided with a finger-hole, that we have studied with Class I.

Notice that this "*tlachieloni*" is only met with in Sahagun's illustrations to book I, in Duran's Atlas and in the Aubin Codex, all of which date unquestionably from after the Conquest. Even in these it is invariably accompanied by a shield and in the cases of *Xiuhtecutli* and *Tezcatlipoca* with *spears* or a shield and a banner.

It is also a significant fact that we find only exceptional *tlachieloni* in the hands of deities *who are usually represented with various forms of authentic atlatl* by the artists of older Codices. Beside *Tezcatlipoca*, see *Xiuhtecutli* (Pl. II, 9, 24 and III, 1, 4, 5 and 29).

The name *tlachieloni*, meaning "that through which one can look" (from the verb *tlachia* = to look) is descriptive and would be equally applicable to all the *atlatl* provided with finger-holes through which one could look. One is led to infer by Duran's text, however, that a symbolism was attached to this ceremonial form of *atlatl* and that the circle through which one could look had become emblematic of the power of sight. Fray Duran records the popular belief that "*Tezcatlipoca* saw all that happened in the universe." The circles or rings usually represented about the eyes of *Tlaloc* conveyed, undoubtedly, a similar symbolism and were the emblem of constant watchfulness and powerful, all-seeing vision.

Pausing now to review the principal Aztec gods in their representations, one cannot but be struck by the fact established by the foregoing testimony that *each god carries, as symbol, some form of atlatl*. Turning to the sculptured monuments of Mexico and Yucatan we find the *atlatl* and the spear and an almost total absence of any other weapon. The same observation applies to the older Maya and Mexican Codices.

In the Mexican MSS. dating from the time of the Conquest one can trace the disappearance of the *atlatl* by its increasingly incorrect representations and note its extinction by finding these finally superseded by pictures of the bow and arrow. And thus the inter-

rupted evolution of the truly wonderful atlatl, the spear-thrower of ancient Mexico, came to an end.

The atlatl, although exquisitely carved, covered with gold, inlaid with turquoise, decorated with feather work and exhibiting the remarkable degree of skill attained by an industrious and intelligent race, seems, indeed, to be a fitting epitome of the strange civilization of Ancient Mexico, the real barbarism of which was mitigated by the most marvellous perfection in every detail of industrial art.

Dresden, August, 1890.

ILLUSTRATIONS.

PLATE I.

- Figs. 1, 2. Sculptured warriors on stone posts of doorway of building known as the "Tennis-Court," Chichen-Itza. Drawings from photographs of casts.
- 3, 4, 5. Warriors from bas-relief on wall of a chamber. "Palace of the Tigers," Chichen-Itza.
- 6a. Sculptured warrior carrying atlatl below shield, on so-called Sacrificial Stone, City of Mexico.
- 6b. Sculptured warrior presenting atlatl, also on so-called Sacrificial Stone.
7. Picture of Huitzilopochtli holding the Xiuhcoatl = the blue serpent atlatl, — four spears, a shield and banner. The head-dress strikingly and closely resembles the Ancient Mexican head-dress preserved in Vienna. It has a similar central superposed elevation also ornamented with discs. The design on the border close to the face recalls the symmetrical "castellated" ornamentation on the Vienna head-dress.

Ancient Mexican MS., National Library, Florence, folio 89.



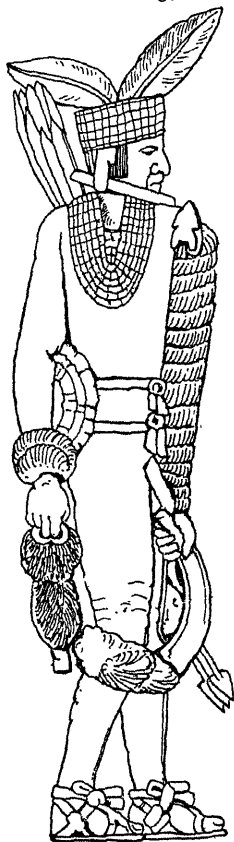
3.



4.



5.



1



6^a.



6^b.



7.



2.

PLATE II.

| | FROM | ACCOMPANIED BY |
|---------|--|--|
| Fig. 1. | Vues des Cordillères, p. 15. | |
| 2. | Laud MS., . . . p. 18, | spears (2). |
| 3a. | So-called Sacrificial Stone. . | spears (2), shield, banner. |
| 3b. | Mendoza Codex, . . . p. 5, | spears (3), shield. |
| 4. | Borgian " . . . p. 34, | spears (2). |
| 5. | Féjérvary " | spears (2). |
| 6. | Bas-relief, Dupaix I, . p. 23, | spears (4), shield, etc. |
| 7. | Laud Codex, . . . p. 20, | spears (2) double. |
| 8. | Vatican Codex A, . . . p. 70, | spear (1) and quiver. |
| 9. | Borgian " . . . p. 54, | spear-bundle. |
| 10. | Laud " . . . p. 6, | spear (1). |
| 11. | Féjérvary " . . . p. 32, | shield, banner. |
| 12. | Vienna " . . . p. 50, | spears (2), banner. |
| 13. | Selden " . . . p. 1, | shield. |
| 14. | Vatican " A, . . . p. 17, | spear (triple). |
| 15. | " " " . . . p. 27, | spears (3). |
| 16. | " " " . . . p. 14, | " " |
| 17. | Bologna " . . . p. 21, | spears (3), shield. |
| 18. | " " . . . p. 24, | " " " |
| 19. | " " . . . p. 14, | " " " |
| 20. | " " . . . p. 15, | " " " |
| 21. | Borgian " . . . p. 18, | spears (3), shield, banner. |
| 22. | " " . . . p. 69, | " (2), " " |
| 23. | Féjérvary " . . . p. 43, | " (3). |
| 24. | Vatican " A, . . . p. 29, | " (3). |
| 25. | " " " . . . p. 27, | " (2). |
| 26. | " " " . . . p. 13, | " (3). |
| 27. | Borgian " . . . p. 4, | spear (double), shield, banner. |
| 28. | Dresden " . . . p. 65, | spears (2). |
| 29. | " " . . . p. 60, | copal-bag? |
| 30. | Carved on teponaxtle in British Museum, . . . | spears (2). |
| 31. | Dresden " . . . p. 47, | spears (2). |
| 32. | " ed. Kingsborough, p. 48, | " " |
| 33. | Dresden Codex, . . . p. 46, | shield (transfixed prey in vignette below). |
| 34. | " " . . . p. 50, | spears (2). |
| 35. | " " . . . p. 60, | spears (2). |
| 36. | " " . . . p. 65, | spear (1). |
| 37. | Troano " . . . p. 47, | spears (2). |
| 38. | " " . . . p. 7, | spear (1). |
| 39. | Engraved on Humboldt celt. | |
| 40. | Dresden Codex, . . . p. 49, | spears (2). |

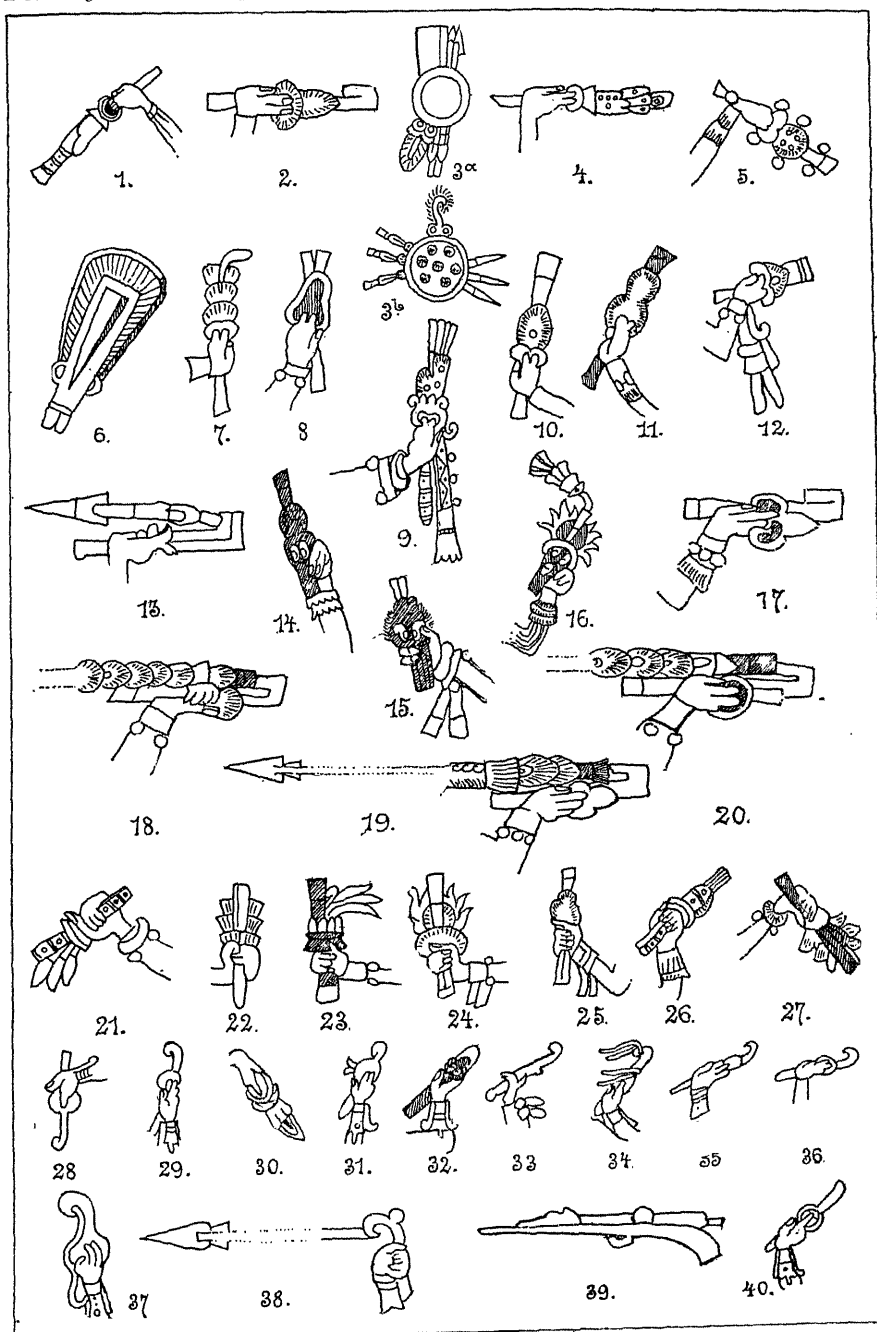
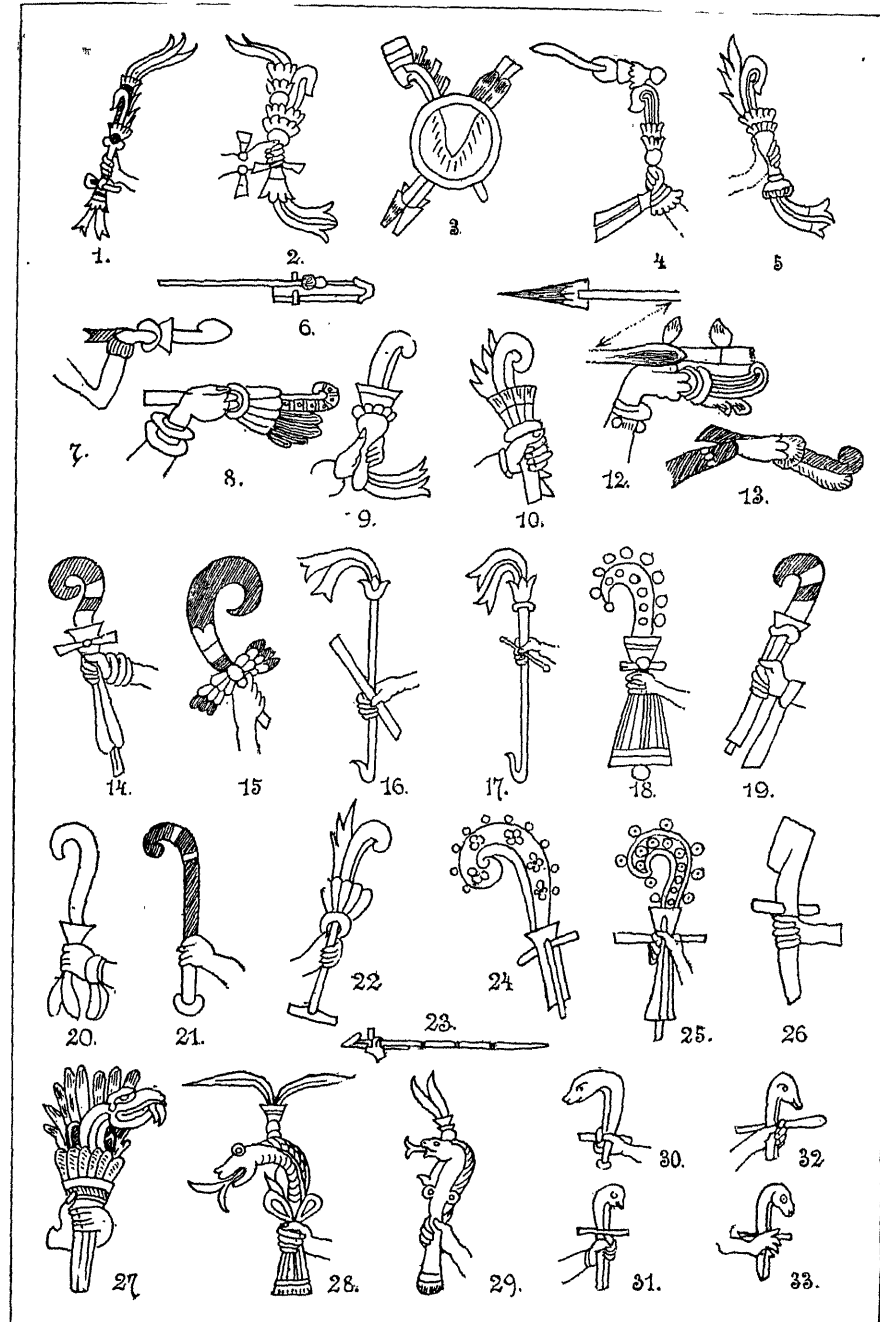


PLATE III.

| Fig. | DESCRIBED BY | | |
|------|-------------------------------------|--|----------------------------------|
| | FROM | CONTEMPORARY TEXTS | ACCOMPANIED BY |
| | | AS | |
| 1. | Vatican Codex, | p. 32, Xiuatlatl. | |
| 2. | " " | p. 33, " a certain sort of arm as a bow." . | spears, shield, banner. |
| 3. | Vienna " | p. 20, | spear, shield. |
| 4. | Vatican " | p. 56, | serpent, staff. |
| 5. | " " | p. 74, | spears, shield. |
| 6. | MS. History of Mexico, | p. 33, Hieroglyph of town. | |
| 7. | Féjérvary Codex, | p. 44, | spears. |
| 8. | Borgian " | p. 14, | " shield. |
| 9. | Vatican, " | p. 68, | " " banner. |
| 10. | Telleriano Re- mensis Codex, | p. 8, Xiuatlatli, . . . | " provision bag. |
| 12. | Borgian " | p. 61, | " shield. |
| 13. | Féjérvary " | p. 4, | " |
| 14. | National Library, Florence, MS., | Mixcoatl xonoquitl, . | " " banner and provision bag. |
| 15. | Duran's Atlas, II, | p. 6, | shield. |
| 16. | Vatican Codex, | p. 81, " amiento made of wood." . . . | " and banner. |
| 17. | " " | p. 82, " amiento made of wood," . . . | " " " |
| 18. | Ramírez " VII, p. 19, | | " |
| 19. | " " VIII, p. 13, | | spears, shield, banner. |
| 20. | Vatican " | p. 8, | " "ecacocœ." |
| 21. | " (A) " | p. 14, | copal-bag. |
| 22. | " " " | p. 61, Xiuatlatli, . . | spears, shield. |
| 23. | MS. Hist. Sahagun, | | spear, shield. |
| 24. | " " " | | shield. |
| 25. | " " " | | spears. |
| 26. | Boturini MS., | Hieroglyph of town. | |
| 27. | Borgian Codex, | p. 22, | " shield, banner. |
| 28. | Ramírez x, | p. 17, | " " " |
| 29. | National Library, Florence, MS., | | " " " |
| 30. | MS. Hist. Sahagun. | | |
| 31. | " " " | | |
| 32. | " " " | . Xiuhatlatli, . . . | spear. |
| 33. | " " " | | spears and shield. |



ARCHÆOLOGICAL AND ETHNOLOGICAL PAPERS

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— Harvard University —

VOL. I. No. 4.

REPORT

UPON

PILE-STRUCTURES IN NAAMAN'S CREEK,

NEAR CLAYMONT, DELAWARE.

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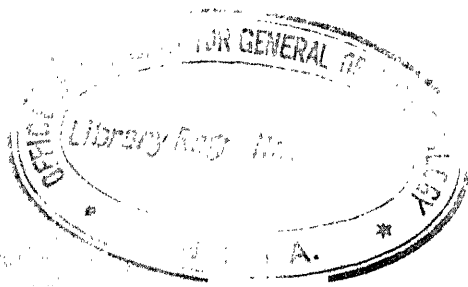
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SPECIAL ASSISTANT OF THE PEABODY MUSEUM.

CAMBRIDGE, MASS.

PEABODY MUSEUM OF AMERICAN
ARCHÆOLOGY AND ETHNOLOGY.

APRIL, 1892.



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EDITORIAL NOTE.

IN the Twenty-second Report of the Museum for the year 1887-8, a brief notice is given of a collection of stone implements, potsherds and other objects, taken from the mud near the mouth of Naaman's creek, Claymont, Delaware, presented by Mr. Hilborne T. Cresson, with a few others from the same place presented by Mr. A. B. Huey, and Mr. W. R. Thompson. The statement is there made that these objects were found in the mud of the creek at three localities, designated Stations A, B and C, which were near together. The fact that these objects were in close association with the decayed remains of stakes or piles (several of which have been carefully taken up and sent to the Museum), indicating some aboriginal structure of an unknown character, made the collection one of considerable interest and importance. Since then, Mr. Cresson has sent to the Museum other specimens from this interesting locality and has furnished a Report giving a detailed account of his long-continued and careful researches at this place. This Report is here published and is commended as a clear and simple account of the facts observed during the research. From this statement archæologists can draw such conclusions as seem to them most likely to account for the presence of the piles and the associated objects which to Mr. (now Dr.) Cresson seem to indicate an aboriginal fish-weir.

F. W. PUTNAM,

CURATOR OF THE MUSEUM.

CAMBRIDGE, MASS.,

MARCH 21, 1892.

REPORT UPON PILE-STRUCTURES, SUPPOSED TO BE THE
REMAINS OF ABORIGINAL FISH-WEIRS, IN NAAMAN'S
CREEK, NEAR CLAYMONT, DELAWARE.

THE specimens collected during explorations for the Peabody Museum, since 1887, at the site of the pile-structures which are believed to be the remains of prehistoric fish-weirs, inside of the mouth of Naaman's creek, near Claymont, Del., together with specimens gathered before my connection with the Museum as field assistant, have been arranged for study, and a considerable portion of the collection is placed on exhibition in the Museum; thus presenting with the Abbott, Lockwood and Bennett collections, an interesting series illustrating the condition of early man in the southern portion of the Delaware valley.

The slow and laborious nature of the work, executed with a hand-dredge, rendered it impossible to complete the examinations until the summer of 1889. At this time a steam dredge was used to deepen the creek's channel near Richmond's brick-yard which finished the work. This more rapid method of procedure, although it destroyed the site of the relic bed surrounding the pile-structures, served to add many new specimens of interest to the collection, and afforded a chance to examine more fully the geological formation upon which the alluvial deposits and underlying peat and gravel beds rest.

In 1870, a fisherman living in the village of Marcus Hook, Pa., gave me some spear and arrowheads, chipped from a dense argillite, which he had found on the edge of the extensive mud flats which border Naaman's creek, a small tributary of the Delaware river. The finder stated that while cat-fishing among the reeds and spatter-docks, he noticed, here and there, the ends of logs or stakes protruding from the mud, and that they seemed to be placed in rows; to use his own words, "they stuck out just above the

mud, were as rotten as punk, and he could see no reason why they'd been placed there by white folks; more than likely the Indians in old times used them to hitch their canoes to when spearing fish, and that was the reason the darts, axes and such like were found around there." A visit to the place, made a few days afterward in company with the fisherman, disclosed the ends of much decayed stakes protruding above the mud, just as he had stated, and confirmed what I had before heard in regard to them from a reed-bird gunner, who encountered them while poling his skiff off the marsh into the creek after the water had fallen on the ebb-tide. At that time (1870) I coincided with the fisherman's views that the spot had been a fishing-place of the Indians, as the finds of argillite implements seemed only to exist in the neighborhood of the wooden structures or stake-ends. More mature deliberation based upon the results of hand-dredging and excavating since my first visit (1870), only serves to confirm my opinion that they were the remains of fish-weirs.

Professional duties did not permit me at this time (1870) to give the matter serious attention, and it was not until my return from France, in 1880, that I again visited the spot at Naaman's creek where the finds had been made. While abroad I studied many archaeological collections, especially those from the Swiss lakes, and visited various prehistoric stations of Switzerland. The rude sharpening of the pile-ends which I there examined was in some cases evidently made with sharp stone implements and recalled the cuts on the stake-ends at Naaman's creek. Since 1880, I have frequently examined the spot, excavating the few pile-ends that remained and preserving several that did not fall to pieces. Careful notes were made of the dredgings and excavations. These operations were carried on at low tide, the work being conducted principally by myself aided at times by interested friends. The results, so far (1887), seemed to indicate that the ends of piles embedded in the mud, judging from the implements and other *débris* scattered around them, had once served as supports to structures intended for fish-weirs. In all probability, the piles or stakes originally projected a few feet above the water and were probably interlaced with wattles or vines to more readily bar the passage of fish from the creek to the river. The upper portions of these wooden structures have disappeared during the long lapse of time since they were placed there.

The edge of the flats in which the stakes were embedded¹ is covered with about two and a half to three feet of water on the flood tide. At slack water it forms a low mud bank slanting toward the creek. Three different stations² were located, probably all that exist, in the bed of the creek referred to. This opinion is based upon careful examination of nearly every inch of ground in the neighborhood of the stake-ends, made within the past four years by dredging in sections between certain points marked upon the creek's bank. The implements found at Station A are generally made of argillite, with a few quartz and quartzite. Some were very rude in character and not unlike the palæoliths found by Dr. C. C. Abbott in the Trenton gravels.³

The reproduction, from a photograph, shows the pile-ends as they appeared before excavation at the spot designated station B (see p. 8). The other stations, A and C, were generally covered at high tide. These stakes were carefully excavated, dried and forwarded to the Peabody Museum by the late Mr. William Reilly⁴ of Philadelphia, a florist, then living at Claymont. The slight amount of excavation necessary to remove the pile-ends did not give anything more than a superficial idea of the geological formation in which they stood, and, as it has been stated, until the steam-dredge began its work of deepening the bed of Naaman's creek so that sloops could enter its shallow waters and anchor at the wharf near Richmond's brick-yard, it was not possible to learn much in regard to the underlying formation.

Careful study of the material brought up during the operation of the steam-dredge suggests that in places a bastard peat soil or peat muck, covered by alluvial deposits several feet in thickness, rests

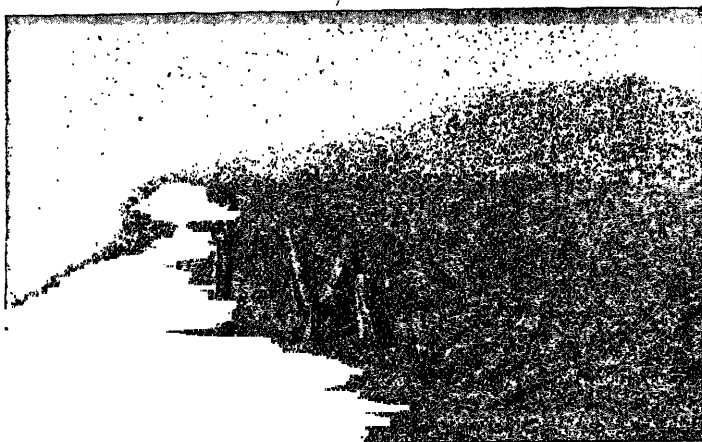
¹ The alluvium was excavated from around these stakes which were photographed in place before removal.

² The term "station" was adopted by Professor Putnam's suggestion, as implements were found in certain spots, several feet apart, in the bed of the creek.

³ Implements of like kind have been found in the boulder clay at the brick-yard alongside of Naaman's creek. The implements that were brought up by the hand-dredge at station A may, therefore, have been washed out of the brick and boulder-clay deposits and scattered among the alluvial deposits in which the stakes were found.

⁴ Mr. Reilly's letter accompanied the specimens referred to. He took an active interest in the researches of the Peabody Museum. He was drowned near the mouth of Naaman's creek in 1887. Thanks of the Museum are also due Mr. Charles Ottey and Willie Shute who presented specimens found among the debris deposited by the steam-dredge. Their letters accompanied the specimens and are on file in the Museum.

upon the brick-clay of Lewis (Columbian of McGee), and that this same peat layer frequently dips downward under the clay deposit. An example of this may be seen northeast and southeast of the creek's mouth near low-water mark; here is a bed of hard, blue clay and two hundred feet further inland, a dark, peaty soil comes to the surface. Southwest of this at Lobdell's Car Wheel Works, near the mouth of Christiana creek,¹ this same peat-bed exists, covered in places by alluvial deposits varying from three feet to six and even ten feet in thickness. I am informed by Mr. Emer



PILE-ENDS AT STATION B.

Loyd of Claymont that, several years ago, while excavating muck for fertilizing purposes on the farm of Mr. William Myers, there was encountered at a depth of twelve feet this same peat layer together with the trunks of trees; in fact, this has often been remarked by well-diggers in that vicinity, and in all probability accounts for the so-called tree-ends which protrude from beneath alluvial deposits in the bed of the Delaware river near Grubb's landing. These

¹Chipped implements of argillite have been found three and a half feet beneath this peat-layer. See letters of Mr. George Lobdell on file in the Museum. Mr. Lobdell mentions the trunks of sycamore trees in the peat. In this respect it resembles the Fallen Forest and Peat Layer at Claymont. A number of these implements, collected by Mr. Lobdell in 1882, are in the Museum, presented by him in 1884 and 1888.

obstructions are a source of annoyance to the sturgeon fishermen who set deep nets, and for this reason they resort to the east channel of the river. Some connection may be traced between these facts and the legends that exist among the country people in the vicinity in regard to apple orchards standing upon farms now entirely covered by the waters of the Delaware.

Professor McCorkle of the United States Coast Survey informs me that the encroachments of the river upon the west bank, within the past hundred years, have been so slight that the contours of recent and earlier surveys show very little change. The fact must not be overlooked, however, that certain land on the west side of the Delaware river, at one time covered by the ebb and flow of the tide, was reclaimed from its waters by dykes. This was the work of the early settlers. The land near the Christiana creek and the shore line of the Delaware south of that point are examples of this. Mr. Lobdell, who owns large tracts of land near the spot last mentioned, states that the dykes along the Delaware river front and the Christiana creek require careful attention to prevent overflow, and that the land had undoubtedly been reclaimed by the early Swedish settlers from the encroachments of the water; a proof being given by the heavy alluvial deposits in the vicinity resting upon other aqueous deposits of great age.

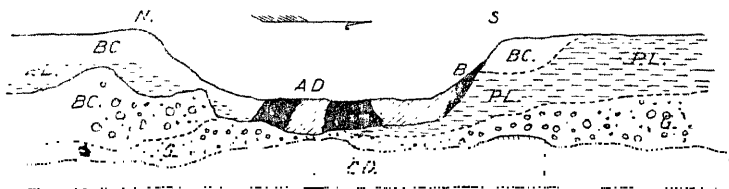
These facts are mentioned to show that "The Fallen Forest and Peat Layer" is not confined solely to the immediate neighborhood of the mouth of Naaman's creek but is distributed over a wider area.¹

Under the brick-clay of Lewis may be encountered, at certain localities, a red gravel similar in character to that observed further northeast toward Philadelphia, but not so well defined and disappearing altogether at times or merging into the boulders and clay so characteristic of this region. Whether the old tertiary sea deposit, so well marked at Philadelphia, exists thus far south is yet

¹ When Mr. McGee of the United States Geological Survey visited the peat-beds, then uncovered at Richmond's brick-yard, Naaman's creek, he was unable to give a decided opinion in regard to their age. In a letter to me upon the subject, bearing date of Jan. 13, 1890, he states: "You must allow me to withhold my opinion until I have opportunity to make extended studies along both sides of the Delaware, in Pennsylvania, New Jersey and Delaware." Prof. G. Frederick Wright, who visited the site of the supposed fish-weirs as well as other localities in the neighborhood, expressed himself as greatly puzzled by the position of the peat-beds.

to be demonstrated.¹ Underlying the brick-clay is the crystalline of Dana.

A suggestion of the superposition of the layers near the mouth of the creek may be conveyed by the ideal sketch shown below. *AD* represents the creek's bed and alluvial deposits overlying;



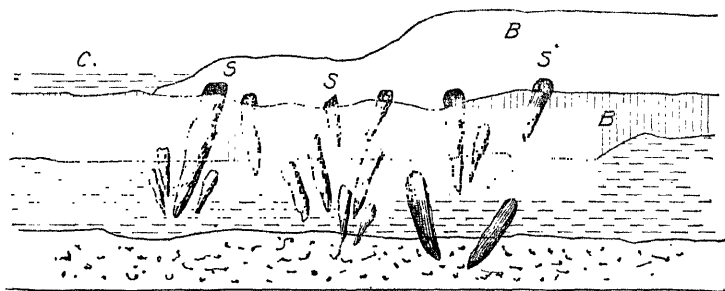
BC brick clay and *G* gravel deposits; *CD* is the crystalline of Dana; *PL* is the peat layer that lower down contains the fallen trunks of willow, cedar, oak and pine trees; for this reason it has been designated the Fallen Forest and Peat Layer. The black areas in the creek bed mark the position of the pile-structures which it is conjectured were interlaced with wattles or vines, forming ancient fish-weirs.

The position of these pile-structures shows that in two localities they were implanted in the peat layer, and in the other case, so near as could be determined in the difficult process of hand-dredging, in a gravelly deposit mixed with large boulders.

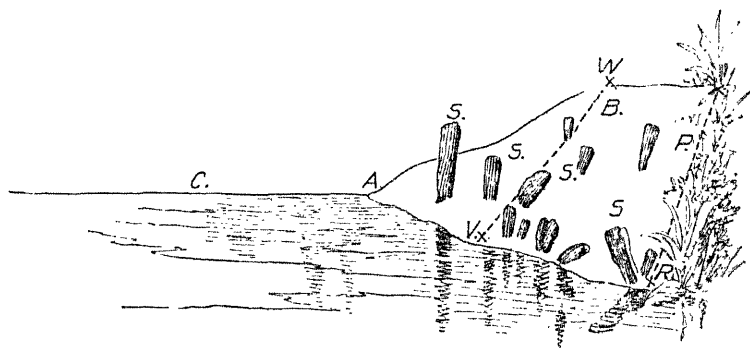
Reference has already been made to the reproduction of a photograph taken at dredging-station *B* (see p. 8). This picture was taken some months after the bank had been sliced away, a few of the piles being removed to study their geological position. The negative was not satisfactory, and later other photographs were taken. But little change had taken place in the position of the piles subjected to the ebb and flow of the tide, as they were in a measure protected by the water-grass and spatter-docks that grew up around them after the section of the creek's bank had been removed.

¹A yellow sand resembling that underlying the Red gravel of Lewis at Philadelphia has been remarked at Mr. Lobdell's, also in wells dug at Marcus Hook, Pa. Traces of this yellow sand and gravel are not wanting in the vicinity of Naaman's creek.

A copy of a pencil sketch will better suggest how the wooden stakes or pile-ends looked when first examined (profile).



C, the creek; *S*, the wooden stakes covered by alluvial deposits; *B*, the mud bank on the side of Naaman's creek; the lines show the stakes below the mud, and the dark tops indicate how little they projected above it.

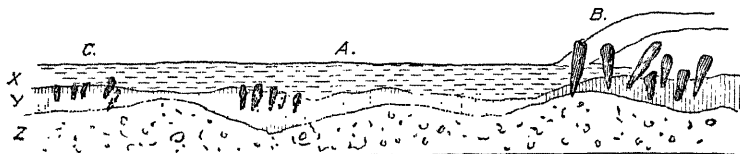


The second sketch shows the method pursued at low tide in trenching away the side of the bank and exposing the wooden structures. A slanting cut was made, a few feet in depth, from *W* to *A*, *W* to *V* and *P* to *R*.

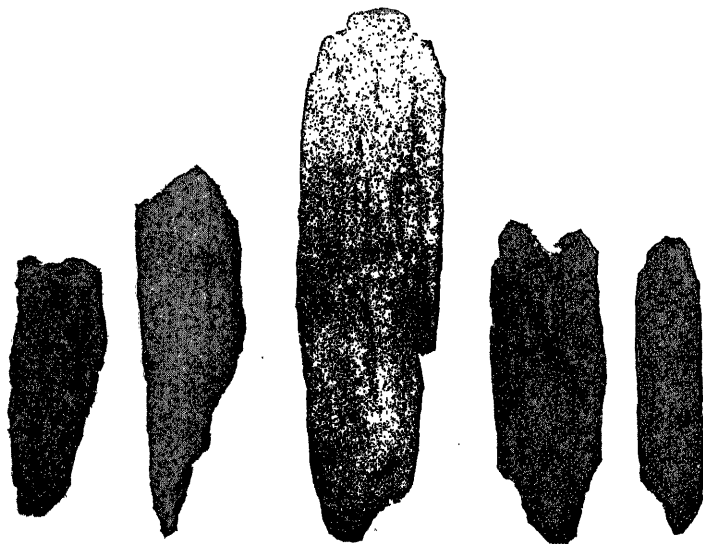
The profile sketch on the next page, taken in this connection, shows the geological position of the wooden structures.

A, *B* and *C* indicate the position of the three dredging stations; the dotted lines the relic beds surrounding them. The exact position of the wooden pile-ends could be determined at *B*, but at *C* and *A* the positions were determined with less accuracy, as they were on an average about two to two and a half feet beneath the alluvial deposits of the creek and had to be probed for with a long,

iron rod. This process required great care, as the rod easily penetrated the soft wooden ends. The hand-dredge served to determine the area of the relic-beds from which was obtained the interesting collection now on exhibition in the Peabody Museum. X, Y and Z show the outlines of the alluvial deposits, peat-beds and underlying clays and gravels.



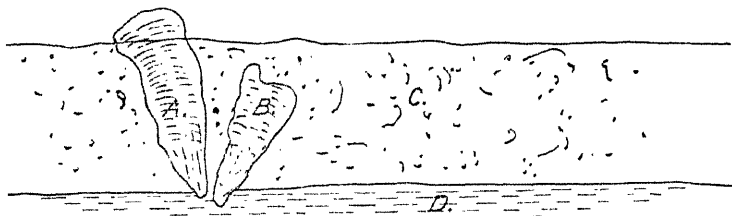
Indications of an attempt to sharpen the ends of the stakes are not wanting, as shown in the following reproduction of a photograph of the best preserved in the collection, and suggest that this was probably accomplished by a cutting instrument of stone.



Pile-ends after removal from dredging-station B, Naaman's creek. From a photograph of specimens in the Peabody Museum.

Wedge-posts, as shown in figure on next page, were also used to strengthen the wooden structures, a necessary precaution from the fact that during the spring rains the waters of the creek are largely increased in volume and during the ebb tide push out with great

force. This strong current probably accounts for the existing gaps that occur between dredging-stations A, B and C, the pile-ends between the points *C* to *A* and *A* to *B* (see figure, p. 12), having been carried away since they were abandoned by the people. The preservation of those at dredging-stations A and C is due to the fact that while the upper portions of the piles have rotted away, the ends have been preserved in the bastard peat and alluvial deposits which covered them. The superior condition and length of the piles secured at station B may be accounted for by the shelving nature of the bank and the mass of water plants that in a great measure protected them from injury.

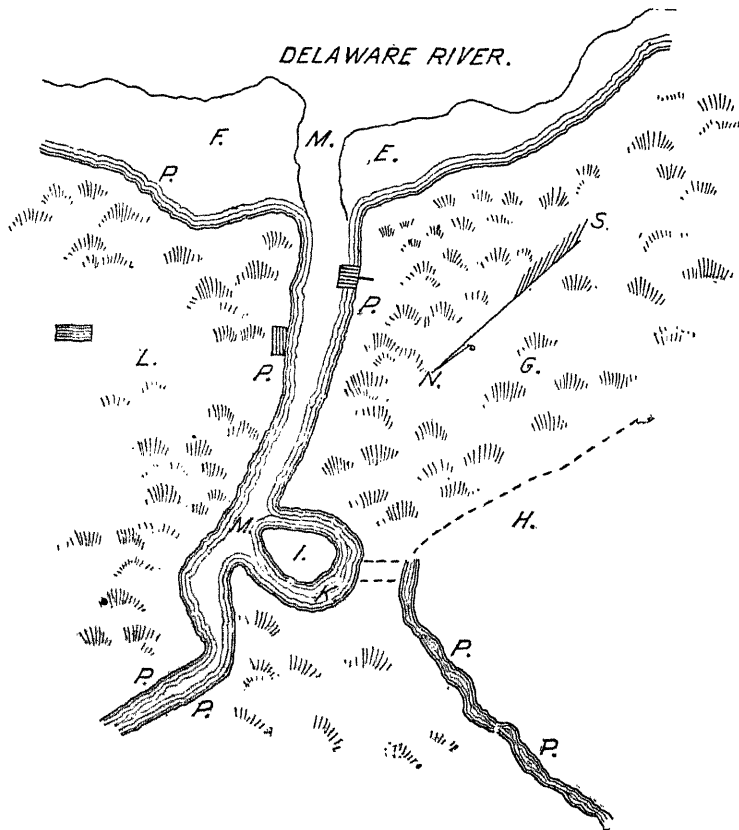


A is a pile-end in position; B is a wedge stake driven into the mud alongside of it.

The fact must not be overlooked that the present mouth of the creek is not as it was in bygone times. Alluvial deposits extend a considerable distance northeast and southwest of the present mouth, in what are now swampy meadows which have been reclaimed by dykes from encroachments of the waters of the Delaware. It is not improbable that these wooden structures occupied a central position in the areas either covered with water or subject to overflow, or else that the existing hard clay-bed around and to eastward of station B was an islet forming an elevation of dry land suitable for a camping-place of the fishing community.

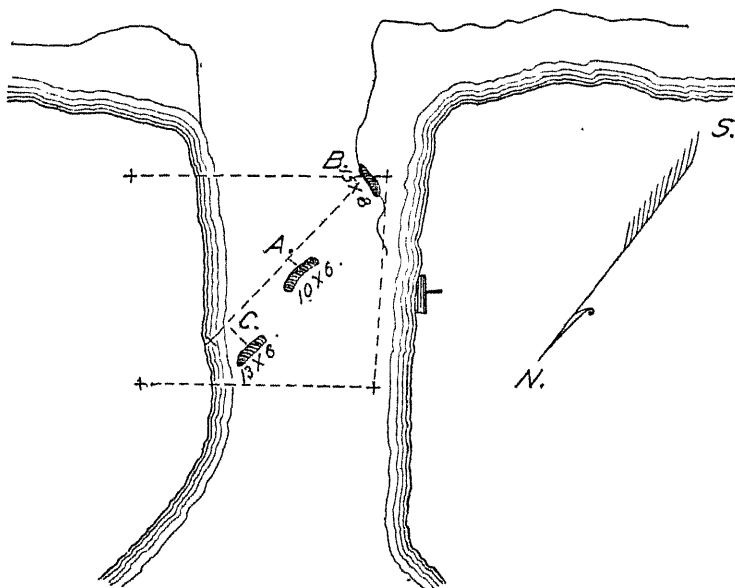
A better idea of this may be had by reference to the pen sketch on page 14. *F* and *E* are the beds of clay projecting beyond the dykes, *P*. *G* is a large area of swamp land, with a black muck or bastard peat soil, mixed into alluvial deposits. It now forms a part of the Clyde estate. *L* is upon the Richmond property occupying the north side of Naaman's creek; the area of overflow is not so great on this side toward the north but bends towards Marcus Hook to the eastward. The present position of Naaman's creek bed is indicated by *MM*. *H* is an elevation of clay that overlooks *G* from the west. *I* is a small islet surrounded by a ditch

K which has in recent times been used by the firm of George Churchman & Sons as a log boom. The width of the water-way around *I* was considerably enlarged and deepened by the Messrs. Churchman, so as to better float timber; and the material dug from it for dyking may also have increased its size. The late George Lodge, Esq., of Claymont, Del., a well-known and respected citi-



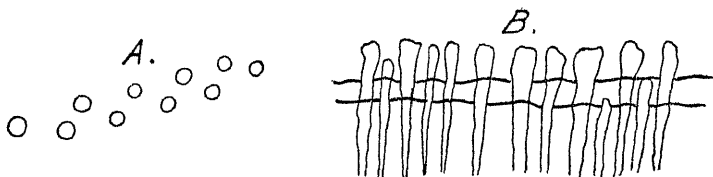
zen who was acquainted with the traditions of the neighborhood in which he was born, once related to me that Wertmüller the distinguished court painter, an exile from the court of Louis XVI, who formerly owned this property and died in the old Clyde homestead, stated that he had been told by a Delaware Indian that this was a ditch in which his ancestors the Lenapi used to hide their canoes when they came to catch fish at the creek's mouth. When

Prof. G. F. Wright, the distinguished glacialist, visited this locality, his attention was called to this islet and ditch, and the position and character of the same seemed to impress him with the probability of aboriginal origin. If it had been the work of the white man it is not probable he would have left the islet that stands in the centre. It seems improbable that any one would have taken the trouble when the land was dyked to run the banks around a spot of this kind unless a ditch of considerable depth had previously existed there. If it was dug for a log boom, in later times, it is a singular circumstance that the entire area of *M*, *I*, *K* (see sketch) was not excavated. Its shape and its position at the side of the creek recall similar excavations that have been quoted by my friend, the late Dr. Charles Rau of the Smithsonian Institution. If the mouth of this artificial excavation had been closed by pilings interlaced by watlings similar to those remains discovered further to the eastward, at the creek's mouth, an admirable fish preserve would have been the result. Dr. Rau, in a visit to this locality shortly before his death, deemed it to be of aboriginal origin.



The position of the wooden structures ran from north to south across the creek's bed, as indicated by the dark spots, *C*, *A*, *B*,

shown in the diagram on page 15, and so near as could be determined by pile-ends located at the various dredging spots or stations, A, B, C, the piles were placed about six inches apart and in the following order:



Withes of wicker work could have been slipped between these piles as suggested by sketch *B*, thus forming a sufficient obstruction to drive the fish toward *B*, page 15, where, for reasons already given, the water was more shallow, or a shelving bank of clay afforded a better opportunity to the aboriginal fisherman to pierce them with his spear or arrow. On the other hand, if it be considered that the structures were simply wooden enclosures surrounding a habitation site now covered by the waters of Naaman's creek, and that the original waters of the creek were further to the north-east or southeast, as the case may be, then we cannot account for the position and kind of implements that have been dredged from around *A*, *B*, *C*, for they were found at various depths in the peat and alluvial deposits and suggest implements used by a people resorting to this locality to fish. The collection forwarded to the Museum by the various gentlemen interested in the exploration also suggests this. Most of the arrow-points are similar to those found among the shellheaps of Cape Henlopen.

Among other interesting implements presented to the Peabody Museum is a large stone maul that differs from our usual American types of such implements in the fact of its having a hole drilled through it for the insertion of a handle or a wither. Three of these implements were found.

A difference in the character of the objects dredged from the various spots shown in the plan above, *A*, *B* and *C*, is worthy of remark. At *B* pottery was found, and in the material used for the manufacture of stone implements, jasper and quartz predominate. Implements of argillite, it is true, were also found, but they were few in number and of better finish than those dredged from *A* and *C*. At these last two stations there were but few implements of

jasper, quartz or any flint-like material. Pottery and fragments of bone implements were found only at B.

Prof. Henry W. Haynes agrees with Professor Putnam¹ in his belief that "the fact that at only one station pottery occurs and also that at this station the stone implements are largely of jasper and quartz with few of argillite, while at the two other stations many rude stone implements are associated with chipped points of argillite, with few of jasper and other flint-like material, is of great interest." Professor Haynes, likewise, deems it safe to consider them as ancient aboriginal fish-weirs rather than the remains of a pile-dwelling people. This, then, but confirms the words of the fisherman who first brought the stone implements to notice when he suggested that "the Indians, in old times, used to hitch their canoes to them and spear fish, and that this was the reason why their darts, axes and such like were found around there."

Fish-weirs have been mentioned by certain early explorers on this continent and remains resembling such structures have been referred to by more modern writers.²

That these pile-structures discovered at the mouth of Naaman's creek originally formed aboriginal fish-weirs, is but a conjecture, it is true; but from a study of the material obtained from the three dredging-stations, and now in the Peabody Museum, it may be granted that the assumption is not unwarranted.

¹ Report Peabody Museum, Vol. IV, p. 45, 1888.

² See Smithsonian Contributions to Knowledge, Vol. XXV, Prehistoric Fishing in Europe and North America, by Charles Rau, p. 284, De Bry *et al.*

LIST OF SPECIMENS.

THE following summary from the museum catalogue will give some idea of the collection now arranged in the Peabody Museum where it can be seen by all interested.

FROM STATION A.

| | |
|-------------------------------|--|
| Nos. 44,281-6 | 15 broken masses of argillite, quartz and other rocks. |
| " 44,287 | 2 stone chips. |
| " 44,288-301 | 17 chipped stones of various kinds, several being split pebbles. |
| " 44,302-8 | 9 rude celt-like implements. |
| " 44,309 | 3 notched stone, sinkers. |
| " 44,310 | 3 pitted stones. |
| " 44,311 | 1 hammer stone. |
| " 44,312-64 | 53 chipped pointed implements, mostly of argillite but a few of quartzite and other stones. Also a few flakes. |
| 103 specimens from station A. | |

STATION B.

| | |
|-------------|---|
| Nos. 45,252 | 1 grooved stone, axe shape. |
| " 45,253 | 1 discoidal pebble, perforated. |
| " 45,254 | 1 large chipped pointed implement of jasper. |
| " 45,255 | 1 large chipped pointed implement of granite. |
| " 45,256 | 1 chipped pebble, jasper. |
| " 45,257-8 | 2 chipped points, slate. |
| " 45,259 | 1 chipped piece of jasper. |
| " 45,260 | 1 hammerstone, pebble, pitted. |
| " 45,261 | 1 chipped point, slate. |
| " 45,262 | 1 split pebble. |
| " 45,263 | 1 jasper flake, chipped. |
| " 45,264 | 1 chipped implement, jasper. |
| " 45,265 | 1 natural stone. |
| " 45,266 | 1 chipped implement, jasper. |
| " 45,267 | 1 chipped implement, quartz. |
| " 45,268 | 1 hammerstone. |
| " 45,269 | 1 small argillite implement, with groove. |
| " 45,270 | 1 jasper flake. |

| | |
|--------------|--|
| Nos. 45,271 | 1 chipped point, slate. |
| " 45,272 | 1 chipped scraper, jasper. |
| " 45,273 | 1 long point, slate. |
| " 45,274 | 1 chipped piece of slate. |
| " 45,275 | 1 broken piece of granite. |
| " 45,276 | 1 chipped piece of jasper. |
| " 45,277 | 1 rude, grooved axe-like weapon. |
| " 45,278-9 | 2 chipped points, slate. |
| " 45,280 | 1 large chipped jasper implement. |
| " 45,281 | 1 chipped jasper flake. |
| " 45,282 | 1 broken nodule of flint. |
| " 45,283 | 1 perforated pebble. |
| " 45,284 | 1 notched pebble, sinker. |
| " 45,285 | 1 chipped pointed jasper flake. |
| " 45,286 | 1 grooved stone, sinker. |
| " 45,287 | 1 chipped slate point, process of manufacture. |
| " 45,288 | 1 rude stone axe, grooved. |
| " 45,289 | 1 notched pebble, sinker. |
| " 45,290 | 1 chipped jasper pebble. |
| " 45,291 | 1 chipped jasper implement. |
| " 45,292 | 1 chipped jasper flake. |
| " 45,293 | 1 pitted hammerstone. |
| " 45,294-6 | 3 chipped slate points. |
| " 45,297 | 1 chipped jasper point. |
| " 45,298 | 1 jasper pebble. |
| " 45,299 | 1 celt made from jasper pebble. |
| " 45,300-301 | 2 chipped stone points. |
| " 45,302 | 1 chipped jasper flake scraper. |
| " 45,303 | 1 chipped stone implement. |
| " 45,304 | 1 chipped jasper pebble. |
| " 45,305 | 1 chipped jasper point, failure. |
| " 45,306 | 1 jasper flake. |
| " 45,307 | 1 chipped jasper point. |
| " 45,308 | 1 quartz flake. |
| " 45,309 | 1 grooved pebble. |
| " 45,310 | 1 chipped jasper implement. |
| " 45,311-314 | 4 chipped stone points. |
| " 45,315-316 | 2 jasper flakes. |
| " 45,317 | 1 chipped jasper scraper. |
| " 45,318 | 1 chipped stone point. |
| " 45,319 | 1 flint flake, chipped edges. |
| " 45,320 | 1 chipped flint implement, process of manufacture. |
| " 45,321-4 | 4 chipped jasper flakes. |
| " 45,325 | 1 notched pebble, sinker. |
| " 45,326 | 1 jasper flake. |
| " 45,327 | 1 quartz flake. |
| " 45,328 | 1 chipped jasper pebble. |

| | |
|-----------------|--|
| Nos. 45,329-332 | 4 slate points. |
| " 45,333-334 | 2 jasper flakes, chipped edges. |
| " 45,335 | 1 chipped jasper pebble. |
| " 45,336 | 1 chipped pebble, sinker. |
| " 45,337-8 | 2 chipped stone points. |
| " 45,339 | 1 chipped jasper pebble. |
| " 45,340 | 1 notched pebble, sinker. |
| " 45,341 | 1 chipped jasper point, one edge serrated. |
| " 45,342 | 1 chipped stone point. |
| " 45,343 | 1 chipped jasper implement. |
| " 45,344-345 | 2 chipped jasper pebbles. |
| " 45,346 | 1 chipped stone point. |
| " 45,347 | 1 chipped jasper implement. |
| " 45,348-9 | 2 chipped stone points. |
| " 45,350 | 1 chipped jasper point. |
| " 45,351 | 1 chipped stone point. |
| " 45,352 | 1 jasper point. |
| " 45,353 | 1 slate point. |
| " 45,354 | 1 chipped piece of jasper. |
| " 45,355-6 | 2 argillite points. |
| " 45,357 | 1 slate point. |
| " 45,358 | 1 jasper point. |
| " 45,359 | 1 chipped jasper implement. |
| " 45,360-361 | 2 slate points. |
| " 45,362 | 1 chipped piece of jasper. |
| " 45,363-4 | 2 jasper points. |
| " 45,365 | 1 slate point. |
| " 45,366 | 1 stone point. |
| " 45,367 | 1 argillite drill. |
| " 45,368-9 | 2 natural stones. |
| " 45,370 | 1 argillite point. |
| " 45,371 | 1 chipped slate implement. |
| " 45,372-3 | 2 chipped jasper flakes. |
| " 45,374 | 1 argillite point. |
| " 45,375 | 1 chipped slate implement. |
| " 45,376 | 1 argillite point. |
| " 45 377 | 1 jasper point. |
| " 45,378-380 | 3 jasper flakes, chipped. |
| " 45,381-2 | 2 jasper points. |
| " 45,383 | 1 jasper flake. |
| " 45,384 | 1 jasper implement, discoidal. |
| " 45,385 | 1 chipped slate point. |
| " 45,386 | 1 quartz implement. |
| " 45,387 | 1 splinter of argillite. |
| " 45,388 | 1 flake of argillite. |
| " 45,389 | 1 chipped jasper pebble. |
| " 45,390 | 1 chipped piece of argillite. |

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| Nos. 45,391-2 | 2 argillite flakes. |
| " 45,393 | 1 chipped piece of argillite. |
| " 45,394 | 1 argillite flake. |
| " 45,395 | 1 argillite point. |
| " 45,396 | 1 argillite flake, chipped. |
| " 45,397 | 1 chipped point, quartz. |
| " 45,398 | 1 chipped point, chert. |
| " 45,399-400 | 2 chipped points, argillite. |
| " 45,401 | 1 chipped implement in process manufacture. |
| " 45,402-3 | 2 chipped slate points in process manufacture. |
| " 45,404 | 1 slate flake. |
| " 45,405 | 1 long slate implement. |
| " 45,406 | 1 point of slate, implement. |
| " 45,407 | 1 chipped slate point. |
| " 45,408-9 | 2 chipped argillite points. |
| " 45,410 | 1 argillite flake. |
| " 45,411 | 1 curved stone, natural. |
| " 45,412 | 1 chipped slate point. |
| " 45,413 | 1 chipped jasper pebble. |
| " 45,414-420 | 7 chipped slate points. |
| " 45,421 | 1 slate flake. |
| " 45,422 | 1 chipped jasper point. |
| " 45,423 | 1 slate flake point. |
| " 45,424 | 1 chipped slate flake. |
| " 45,425 | 1 argillite perforator. |
| " 45,426 | 1 stone flake, chipped. |
| " 45,427 | 1 slate point, chipped. |
| " 45,428 | 1 slate flake. |
| " 45,429 | 1 slate point, chipped. |
| " 45,430 | 1 long slate point, chipped. |
| " 45,431 | 1 slender slate point, chipped. |
| " 45,432 | 1 small slate point, chipped. |
| " 45,433 | 1 slate point, perforator. |
| " 45,434 | 1 stone, much decomposed. |
| " 45,435 | 1 large stone flake, pointed. |
| " 45,436 | 1 chipped slate pebble. |
| " 45,437-441 | 5 chipped pieces of slate. |
| " 45,442 | 1 hammerstone, pitted pebble. |
| " 45,443 | 1 hammerstone, pebble. |
| " 45,444 | 1 pebble, chipped on one edge. |
| " 45,445 | 1 slate arrowpoint. |
| " 45,446 | 1 jasper point. |
| " 45,447 | 1 curved stone, natural. |
| " 45,448 | 1 jasper point, process of chipping. |
| " 45,449 | 1 jasper point. |
| " 45,450 | 1 curved piece of stone, natural. |
| " 45,451 | 1 fragment chipped slate point. |

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| Nos. 45,452-3 | 2 jasper points, process of manufacture. |
| " 45,454 | 1 stone point, process of manufacture. |
| " 45,455-6 | 2 chert arrowpoints. |
| " 45,457 | 1 jasper flake. |
| " 45,458 | 1 chipped jasper pebble. |
| " 45,459 | 1 chipped point, chert. |
| " 45,460 | 1 chipped piece of slate. |
| " 45,461 | 1 splinter of argillite. |
| " 45,462 | 1 flake of argillite. |
| " 45,463 | 1 chipped point, argillite. |
| " 45,464-5 | 1 chipped point argillite, much decomposed. |
| " 45,466 | 1 chipped point quartz. |
| " 45,467 | 1 chipped slate arrowpoint. |
| " 45,468 | 2 chipped stone points. |
| " 45,469 | 1 potsherd, incised ornament. |
| " 45,470 | 1 chipped slate point. |
| " 45,471 | 1 argillite flake. |
| " 45,472 | 1 stone flake. |
| " 45,473 | 1 quartz flake. |
| " 45,474 | 1 chipped stone point. |
| " 45,475 | 1 chipped slate point. |
| " 45,476 | 1 chipped stone point, process of manufacture. |
| " 45,477 | 1 chipped slate point. |
| " 45,478 | 1 quartz flake. |
| " 45,479 | 1 chipped stone arrow point. |
| " 45,480 | 2 chert points, process of manufacture. |
| " 45,481 | 1 chipped slate point. |
| " 45,482 | 1 quartz point. |
| " 45,483 | 1 chert point. |
| " 45,484 | 1 jasper point, chipped. |
| " 45,485 | 1 fragment grooved stone axe. |
| " 45,486 | 1 stone hammer, pebble roughly grooved. |
| " 45,487 | 1 grooved stone axe, one-half. |
| " 45,488 | 1 chipped pebble. |
| " 45,489 | 1 stone celt. |
| " 45,490 | 1 stone celt made from pebble. |
| " 45,491 | 1 stone celt, chipped. |
| " 45,492 | 1 chipped mass of argillite. |
| " 45,493 | 1 stone celt. |
| " 45,494 | 1 slate celt, process of manufacture. |
| " 45,495 | 1 stone celt chipped. |
| " 45,496 | 1 rude stone implement. |
| " 45,497 | 1 stone flake. |
| " 45,498-500 | 3 large slate points, portions. |
| " 45,501 | 1 chipped jasper pebble. |
| " 45,502 | 1 chipped slate pebble. |
| " 45,503 | 1 grooved stone implement, fragment. |

LIST OF SPECIMENS.

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| | | |
|--------------|---|---|
| Nos. 45,504 | 1 slate flake. | |
| " 45,505 | 1 grooved stone. | |
| " 45,506 | 1 chipped piece of slate. | |
| " 45,507 | 1 jasper scraper. | |
| " 45,508 | 1 chipped slate point. | |
| " 45,509-10 | 2 chipped pieces of slate. | |
| " 45,511 | 1 chipped piece of jasper. | |
| " 45,512-13 | 2 chipped stone points. | |
| " 45,514 | 1 chipped slate implement. | |
| " 45,515 | 1 chipped jasper pebble. | |
| " 45,516 | 1 chipped slate point. | |
| " 45,517 | 1 natural pebble. | |
| " 45,518 | 1 slate flake. | |
| " 45,519 | 1 jasper flake, chipped, peculiar shape. | |
| " 45,520 | 1 chipped stone point. | |
| " 45,521 | 1 chipped slate point. | |
| " 45,522 | 1 chipped jasper point. | |
| " 45,523 | 1 chipped argillite point. | |
| " 45,524-5 | 2 chipped jasper points. | |
| " 45,526 | 3 potsherds. | |
| " 45,527-537 | 12 potsherds. | |
| " 45,528-549 | 84 splinters of bone. | |
| " 45,550 | 1 chipped jasper implement, process of manufacture. | |
| " 45,551 | 1 chipped piece of jasper. | |
| " 45,552 | 1 jasper flake, trimmed. | |
| " 45,553 | 1 chipped piece of jasper. | |
| " 45,554 | 1 chipped stone point. | |
| " 45,555 | 1 chipped point (chert?) knife. | |
| " 45,562 | 9 pile ends. | } Collected and presented by Mr. A. B. Huey. |
| " 45,563 | 1 chipped chert knife. | |
| " 45,564 | 1 chipped slate implement. | |
| " 45,565-573 | 9 chipped slate points. | |
| " 45,574 | 2 chipped slate points, broken. | } Collected and presented by Mr. W. R. Thompson. |
| " 45,575 | 1 piece of slate. | |
| " 45,576 | 1 potsherd. | |
| | 404 specimens from station B. | |

STATION C.

| | |
|----------------|----------------------------|
| Nos. 44,365-68 | 11 broken pieces of stone. |
| " 44,369-73 | 7 rude stone implements. |
| " 44,374-75 | 2 stone flakes. |
| " 44,376 | 1 large argillite flake. |
| " 44,377 | 4 broken pieces of stone. |
| " 44,378 | 1 pitted stone. |
| " 44,379 | 1 notched stone, sinker. |

229

| | |
|-----------------|---|
| Nos. 44,380-381 | 2 chipped masses of stone, one of jasper. |
| " 44,382-84 | 3 stone celts, one in process of manufacture. |
| " 44,385-400 | 16 rudely chipped implements. |
| " 44,401-84 | 34 chipped pointed implements. |
| " 44,435 | chipped jasper pointed implement, collected by Mr. Thomas Whalen, Aug. 18, 1881. |
| " 44,436 | 1 large oval pebble, maul with hole through centre, presented by W. R. Thompson, collected in 1884. |
| " 45,556 | 1 chipped stone. |
| " 45,557-8 | 2 chipped points, argillite. |
| " 45,259 | 1 slate flake. |
| " 45,260 | 1 chipped slate knife. |
| " 45,261 | 6 slate flakes. |
| | 95 specimens from station C. |
| | Total number of specimens, 602. |

ARCHAEOLOGICAL AND ETHNOLOGICAL PAPERS

OF THE

PEABODY MUSEUM

—Harvard University—

VOL. I, No. 6

PREHISTORIC BURIAL PLACES IN MAINE

BY

CHARLES C. WILLOUGHBY

Chief Assistant in the Peabody Museum

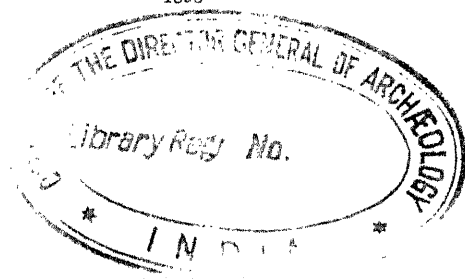
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WITH FOUR PLATES AND FIFTY ILLUSTRATIONS IN THE TEXT
BY THE AUTHOR

CAMBRIDGE, MASS.

PEABODY MUSEUM OF AMERICAN
ARCHAEOLOGY AND ETHNOLOGY

1898



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1898.

This paper is published by the timely aid of
Clarence Bloomfield Moore
of the class of 1873
whose many contributions to the Peabody Museum
have exemplified his devotion to American
Archaeology and whose personal researches
have materially aided its advancement

J. W. Putnam

EDITORIAL NOTE.

SEVERAL years ago, Dr. A. C. Hamlin of Bangor, Maine, kindly gave to the Curator of the Museum information of an interesting Indian burial place in Bucksport. In the summer of 1892, the opportunity occurred of securing the assistance of Mr. Willoughby, who is a Maine man and familiar with the region mentioned by Dr. Hamlin, to carry on for the Museum the exploration of this burial place and also of another at Orland.

The results of these explorations proved so interesting, and the work was so admirably carried out in accordance with the Museum methods, that it was decided to use the material from the Orland site to illustrate the "Methods of Archaeological Research by the Peabody Museum," in the Harvard University Exhibit at the World's Columbian Exposition in Chicago in 1893. The collection of specimens, as well as the photographs, sketches, field notes and a plaster model of the burial place at Orland, all by Mr. Willoughby, were exhibited in the Liberal Arts Building. The exhibit attracted favorable comment and was awarded a medal at the close of the Exposition. The Bucksport exhibit was made in the Department of Ethnology in the Anthropological Building.

In 1894, Mr. Willoughby explored other similar burial places in Maine, and the following paper gives an account of the two seasons' work. The illustrations are from drawings and photographs made by the author.

The specimens, together with several photographs of the graves, and models showing portions of two of the sites, are arranged in the Museum.

As the author has shown, these cemeteries are undoubtedly of very considerable antiquity; and it may be that they are of a people distinct from the historical Algonquins. The absence of pottery in and about the graves is a fact of ethnic importance, and one that should be borne in mind whenever burial places on the coast of Maine, and in New Brunswick and Nova Scotia, are explored.

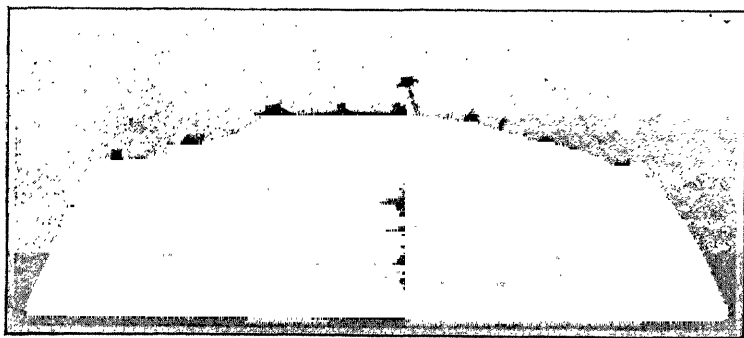
Mr. Willoughby offers a possible solution of the question, What people made these ancient cemeteries? But it is essential that a burial place in Newfoundland, the known country of the Beothuks, should be explored in order to provide the means of comparison with the burial customs of the prehistoric people on the coast of Maine.

F. W. PUTNAM,

Curator of Peabody Museum.

Cambridge, Mass.,

June 22, 1898.



Model of the Burial Place at Orland, Me., when partially explored, showing graves.

PREHISTORIC BURIAL PLACES IN MAINE.

IN the summers of 1892 and 1894 the writer had the good fortune to examine, under the auspices of the Peabody Museum, several burial sites in Maine. These graves proved to be of great antiquity and in several particulars unlike any heretofore described.

Two of these cemeteries had been dug over by collectors of relics, who obtained many implements of stone. Two others had been partially destroyed by the removal of gravel. The fifth was fortunately discovered intact.

The first of these burial places was in a gravel bank upon the western shore of a lake in the town of Damariscotta, Lincoln Co. It was discovered by a farmer while digging a fox from his burrow. The excavation revealed a stone implement lying upon a mass of red ochre. Further excavations showed the layer of ochre to be quite extensive, while other layers occurred at irregular intervals. About seventy-five gouges, celts, knives and pendants were found. These implements are now in the cabinet of the Maine Historical Society at Portland.

The second burial place was upon the northern slope of a gravel hill at the head of Frenchman's Bay, near Mt. Desert Ferry, Hancock Co. The gravel bank was partially removed preparatory to the construction of a railroad. Stone implements of a similar character to those already mentioned were found lying in red ochre. Several of these implements have been presented to the Peabody Museum by Mr. Alfred Johnson of Boston and Mr. H. L. Woodcock of Belfast, Maine. These localities were visited but no additional graves were found.

The three other burial places referred to will be described in detail. The evidence of their very considerable antiquity is con-

clusive; they are probably the oldest cemeteries known in the New England states.¹

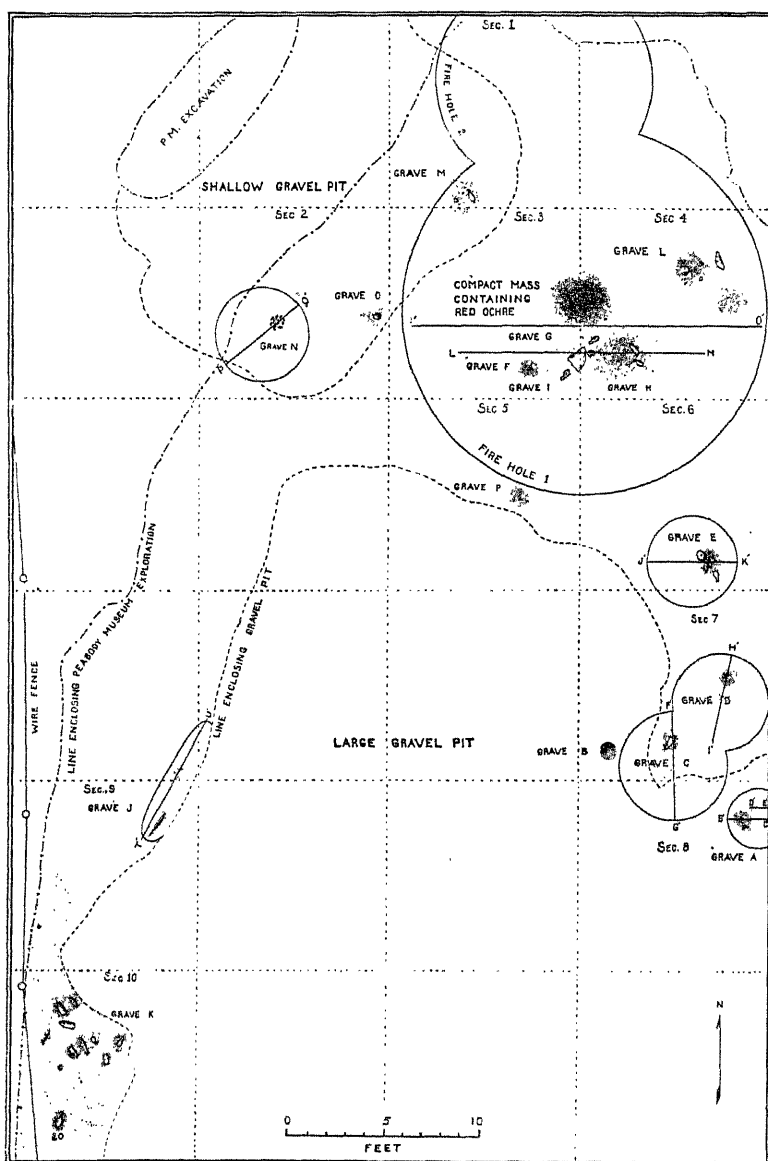
Fragments of an occipital bone, which had been preserved by contact with beads of native copper, were found in one grave. No implements or ochre were found in this grave, and it is probable that it was of more recent date than the others. In some of the other graves there was a small quantity of bone dust associated with the implements and the ochre.

BURIAL PLACE AT ELLSWORTH.

This cemetery is in Hancock County, about one mile below the village of Ellsworth, and is situated in a sand and gravel bank terminating in a high bluff which at this point forms the eastern bank of Union River. It was discovered while removing sand and gravel. Each grave had a deposit of red ochre in which the implements were found. The finding of these objects caused much local excitement, and a large area was dug over by citizens and many implements secured, including several long spear points made of compact slate. Many of these implements were presented to the Peabody Museum by Mr. G. S. Cook and Dr. W. M. Haines of Ellsworth and Mr. H. L. Woodcock of Belfast, who took them from the graves. An examination of the bank immediately surrounding the gravel pit revealed indications of undisturbed graves, and preparations were made for its systematic exploration. Mr. J. W. Coombs, the owner of the land, very kindly allowed excavations to be made, and gave assistance in many ways. Mr. John R. Swanton, a Harvard student, assisted in the exploration of this burial place and several workmen were employed.

The ground to be explored was staked off into sections ten feet square and each section was mapped to scale and numbered as shown in the plan, Plate I. Excavations were begun at the edge of the gravel pit in Sec. 8, the workmen throwing the earth behind them as they advanced, keeping a perpendicular wall of gravel in front. When a grave was encountered the objects within it were not disturbed until the earth covering them was carefully removed with trowel and small hand broom, photographs of the im-

¹ In several other localities in Maine, implements have been found under circumstances which render it probable that they were deposited in graves of this type and period. One man declared that he turned out ninety-nine implements within a space of a few square rods by "ploughing three furrows deep."



PLAN OF PREHISTORIC BURIAL PLACE, ELLSWORTH, MAINE.

THE SHADING WITHIN THE GRAVES INDICATES RED OCHRE, UPON OR WITHIN WHICH THE IMPLEMENTS WERE FOUND.

plements taken, and measurements made and recorded. The exact location of each implement was ascertained by the use of two tape lines. Using one side of the square section as a base line the measurements were made from the two corner stakes. The depth of the deposit below the surface was noted and the position of each implement further ascertained by means of a pocket compass.

Although included in the area of the gravel pit only a portion of the top soil had been removed from the northern half of Sec. 8. A trench was dug to a depth of over four feet near the southern portion of this section and gradually worked north. The wall of earth showed no traces of having ever been disturbed until the southern margin of Grave A was reached.

Nine inches from the surface a bed of white ashes, with a maximum thickness of three inches, was found, together with a few small fragments of charcoal (Fig. 1,

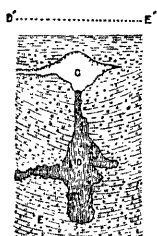


FIG. 2. Vertical cross section D'E', through a portion of Grave A, Ellsworth, Me. The dotted line indicates the surface of ground before formation of gravel pit. C. Ashes. D. Discoloration caused by lye from ashes. E. Disturbed gravel within grave.

vertical cross section).

The earth immediately below the ashes was of a dark brown color and very compact. Farther down the gravel assumed rich brown

and yellow shades. Four feet from the surface a mass of red ochre (indicated upon the plan by dotted shading) was discovered at the bottom of the grave. The outline of the grave could be traced, and its form is shown in the cross section through its centre. When the line of ochre appeared in the wall of sand and gravel the superincumbent earth was removed with a trowel and examined for human remains, but careful search revealed no indications of decayed bone. No implements were found with the ochre. Just north of the centre of the grave the bed of ashes became thicker, and a dark brown mass of earth with sharply defined edges and of the peculiar outline shown in the cross section, Fig. 2, was encountered.

In nearly all graves of this burial place dark earth masses shad-

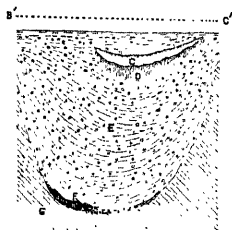


FIG. 1. Vertical cross section B'C', through Grave A, Ellsworth, Me. The dotted line indicates the surface of ground before formation of gravel pit. C. Ashes. D. Discoloration caused by lye from ashes. E. Disturbed gravel within grave. F. Red ochre. G. Undisturbed gravel.

ing into rich browns and yellows were noted just beneath the ash beds. These masses varied greatly in form and size. This discoloration of the gravel was probably produced by the percolation of lye from the ashes.

Carrying the trench along the western side of Sec. 7, within the gravel pit, a mass of red ochre was unearthed twenty-six inches below the original surface, but only a few inches below the floor of the gravel pit. This ochre marks a grave (B), but as the greater

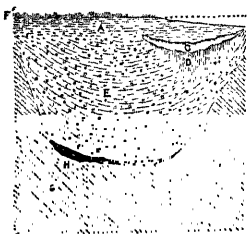


FIG. 3. Vertical cross section F', G', through Grave C, Ellsworth, Me. A. Top soil. C. Ashes. D. Discoloration caused by lye from ashes. E. Disturbed gravel within grave. F. Red ochre. G. Undisturbed gravel. H. Chipped knife.

portion of earth above the pigment had been removed, its outline could not be traced. A very small quantity of whitish powder, which proved to be bone dust, was found near the ochre.

Just east of this grave the edge of the gravel pit rose abruptly to the grassy surface of the field, and the wall of the excavation showed the outline of Grave C. A vertical cross section through its centre is shown in Fig. 3. A bed of white ashes was found just below the top soil. A mass of red ochre lay at the bottom of the grave, which was thirty-eight inches below the surface. Buried within this ochre was the chipped knife of felsite shown in Fig. 4. A greater part of the ochre had been placed in the northern side of the grave, and the mass measured thirty-two inches in length. No trace of bones was found.

Just beyond Grave C, the wall of earth showed a thin line of ashes, nine and one-half inches below the surface, extending over Grave D and continuing northward several feet. A pocket of white ashes eighteen inches across and eight inches deep, of the form shown in Fig. 5, joined the thin layer over the centre of the grave. Below the ashes the disturbed earth within the grave was of various tints of brown and yellow. A mass of red ochre, forty inches from the surface, lay a little to one side of the centre at the bottom of the grave, together with a small quantity of yellowish earth mixed with bone dust, near which was a small, dark mass of earth evidently colored by the decom-



FIG. 4. Chipped knife from Grave C, Ellsworth, Me. 4.

position of a human body. No implements were found in this grave.

Grave E, Sec. 6, forty inches in depth, was of the same general character as those previously described. The layer of ashes above extended beyond the limits of the grave and fragments of charcoal lay upon the upper surface of the ashes. The dark mass of cemented earth was of peculiar form and extended nearly to the bottom of the grave. Two grooved stone pendants and a decomposed firestone were surrounded by a quantity of red ochre which occupied the position shown in the vertical section, Fig. 6. The relative position of these objects will be seen by referring to Plate I. Only a cinder-like mass and yellow oxide of iron in powder remained of the firestone which was originally a nodule of iron pyrites.

During the explorations of these ancient

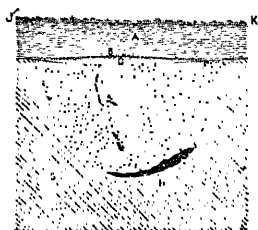


FIG. 6. Vertical cross section J', K', through Grave E, Ellsworth, Me. A. Top soil. B. Charcoal. C. Ashes. D. Discoloration caused by lye from ashes. E. Disturbed gravel within grave. F. Red ochre. G. Undisturbed gravel. H. Pear-shaped pendant.

burial places, several more or less decomposed firestones were found. They occurred singly or in pairs. Occasionally a nodule of pyrites had been placed in the grave accompanied by a well-battered felsite hammerstone. Frequently a little mass of yellow oxide of iron in powder was all that remained of one of these ancient fire-making implements, and this is one of the evidences of the age of the burials.

The outline of the graves within the northern half of the cemetery could not be determined with certainty owing to the coarseness of the gravel. No difficulty was experienced, however, in obtaining accurate cross sections of the great fire hole or communal grave.

A mass of red ochre was found east of the centre of Sec. 5, forty-eight inches from the surface, which marked the bottom of Grave P. Except in a few places the disturbed earth above could

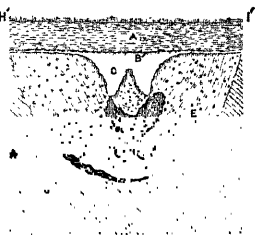


FIG. 5. Vertical cross section H', I', through Grave D, Ellsworth, Me. A. Top soil. B. Charcoal. C. Ashes. D. Discoloration caused by lye from ashes. E. Disturbed gravel within grave. F. Red ochre. G. Undisturbed gravel.

not be distinguished from the surrounding gravel, and it was impossible to trace the outline of the grave.

North of Grave P were two circular depressions or "fire holes," the largest being about eighteen feet in diameter with a central depression of one foot. Excavations showed this to be a communal grave where several bodies had been buried. Each deposit of ochre within the fire hole probably marked the resting place of a body; and for convenience each is considered a separate grave, and is so designated upon the plan.

Ashes were encountered a few feet from the southern margin of the great depression; and as the work progressed all the characteristics of the graves already described were found to be present here upon a larger scale.

The deposit of ochre marking Grave F, Sec. 3, lay forty-one inches beneath the surface, together with a dark discoloration of the gravel and a small amount of whitish grains, which analysis showed to be decayed bone.

A short distance to the east, surrounded by a layer of red ochre, was an angular rock and near it, upon opposite sides, were two pear-shaped pendants with their grooved ends pointing to the southwest. A partially disintegrated firestone lay to the right of the rock. Judging by the appearance of the surrounding earth two or more bodies had been buried near this stone. A small quantity of bone dust was obtained from Grave G, but all traces of bone had disappeared from Grave I.

Grave H was three feet southeast of the centre of the fire hole. A pendant and a rude implement of slaty stone lay upon the paint.

Vertical cross sections through this fire hole at L'-M' and N'-O' are shown in Figs. 7 and 8. Near the centre of the depression and three feet from the surface was found a mass of dark brown earth mixed with red ochre. This mass had a maximum diameter of three feet; it varied from three to eight inches in thickness, and was so hard that it was difficult to break even with a pick. Although examined with the greatest care no trace of bone visible to the eye was found. Chemical analysis, however, showed decayed bone to be present.

Two masses of red ochre were discovered fifty-three inches from the surface in the eastern half of Sec. 4 (Grave L). This grave may have been dug previous to the excavation of the fire hole. Its outline could not be traced, neither was it possible to determine

whether it contained one or two burials, although the indication seemed to be that two bodies had been deposited there. Near the ochre upon which the implements had been placed, a small quantity of bone dust was found, and close to the accompanying deposit of



FIG. 7. Vertical cross section L',M', through Communal Grave or Fire Hole 1, Ellsworth, Me. A. Top soil. B. Charcoal. C. Ashes. D. Discoloration caused by lye from ashes. E. Disturbed gravel within fire hole. F. Red ochre. G. Undisturbed gravel. H. Small boulder. I. Firestone. J. Rude stone implement.

paint lay masses of dark earth probably discolored by the decomposition of a human body. The ochre had been deposited in two masses, the larger being about one-half inch in thickness and eighteen inches in diameter.



FIG. 8. Vertical cross section N',O', through Communal Grave or Fire Hole 1, Ellsworth, Me. A. Top soil. B. Charcoal. C. Ashes. D. Discoloration caused by lye from ashes. E. Disturbed gravel within fire hole. F. Red ochre. G. Undisturbed gravel. The dark mass, to the left of E, contained red ochre and bone dust.

Within this mass of paint were found a small rude scraper and a flake, both of felsite, and upon it lay a partially disintegrated firestone and the rudely engraved implement illustrated in Fig. 9.

This latter implement somewhat resembles the so-called "ulus" or slate knives which are not uncommon in New England. The cutting edge had been broken away and the implement had not been used for cutting purposes for some time previous to its deposit in the grave. The side opposite to that shown in the drawing



FIG. 9. Implement from Grave L, Ellsworth, Me. Ornamented with a design in incised lines. $\frac{1}{4}$.

ing bears evidence of its use as a sharpening stone, and many of the incised lines upon it have been nearly obliterated. The design upon the side illustrated is well preserved, only a few of the lines having been ground away.

Near the northwestern edge of fire hole No. 1 a large mass of deep red ochre was unearthed, seventeen inches below the original surface, and upon it lay a well finished pendant (Plate II). A small disintegrated firestone was also discovered in the paint. No indications of human remains were found, nor could the outline of the grave be traced.

Fire hole No. 2 had been dug to the depth of twenty-eight inches. A cross section showed a mixture of earth, ashes and charcoal with occasionally small quantities of red ochre. It seemed that the earth had been disturbed quite recently, probably by workmen prospecting for gravel.

Grave O, twenty-four inches below the original surface, contained red ochre and the remains of a firestone. A discolored mass of earth three inches in thickness was found near the ochre, but there was no indication of bone. This grave and

graves M and N were within the limits of a shallow gravel pit, and several inches of the earth above them had been removed.

Grave N, Section 2, contained neither ochre nor implements. As above noted this grave was within the limits of the small gravel pit, and the earth above it had been removed to a depth of from four to twelve inches. The original surface is indicated by the

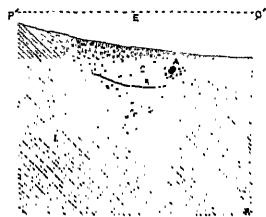


FIG. 10. Vertical cross section P', Q, through Grave N, Ellsworth, Me. A. Fragments of occipital bone, and beads of native copper. B. Fragments of birch bark. C. Disturbed gravel within grave. D. Undisturbed gravel. E. Surface of ground before formation of gravel pit.



GRAVE M, ELDSWORTH, MAINE,
SHOWING RED OCHRE AND PEAR-SHAPED PENDANT.

dotted line E in Fig. 10. The upper remaining portion of the grave contained ashes and a small quantity of charcoal mixed with the gravel. The charcoal and ashes were thickest near the centre of the grave. About nineteen inches from the surface and a little to one side of the centre were the crumbling fragments of a human occipital bone, and twenty-two beads made by rolling strips of native copper. A number of the beads lay in contact with the

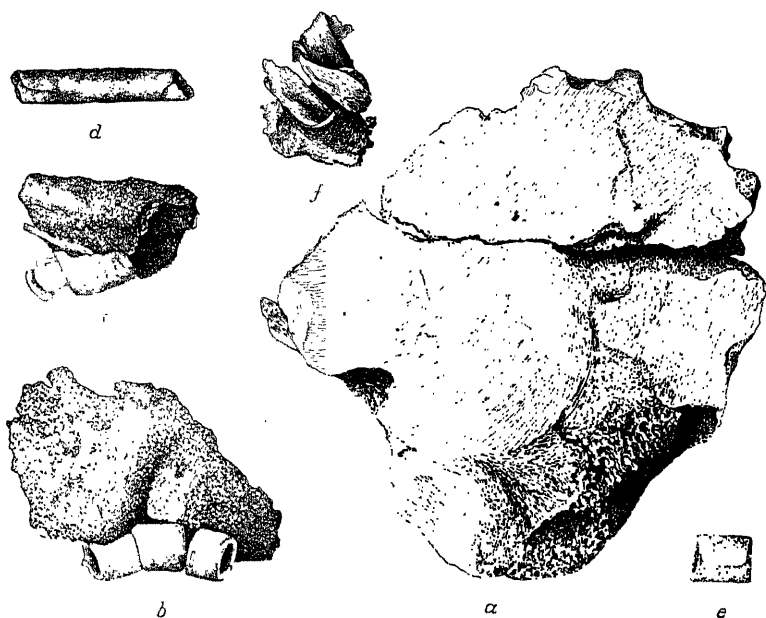


FIG. 11. Native copper beads and fragments of occipital bone from Grave N, Ellsworth, Me. *a* Fragments of occipital bone. *b*, Beads in contact with fragment of bone. *c*, Bead with piece of buckskin cord protruding, in contact with fragment of bone. *d*, *e*, Beads. *f*, Portion of buckskin cord upon which beads were strung, showing knot. †

bone. Typical forms of these beads with fragments of the buckskin thong upon which they were strung, and pieces of the occipital bone are illustrated in Fig. 11. The preservation of both bone and thong is due to the presence of copper salts. All other parts of the skull and skeleton had disappeared. On two or three pieces of charcoal was a cinder-like substance which may have been caused by the burning wood coming in contact with the body,

but there was no evidence of cremation. On the contrary, in all these burials care seemed to have been exercised to prevent the fire over the graves from reaching the bodies.

About two feet below the original surface was a layer of birch bark upon which the body had probably been placed. Fragments of this bark, two inches or more in length, are perfectly preserved and one or two pieces show contact with fire. It seems incredible that this bark should have outlasted the skeleton.¹ A careful search for the line of contact between the disturbed and undisturbed gravel failed to outline the grave. It was evident that the body had been placed at length and not, as was probably the case in the majority of burials in this cemetery, in a sitting posture. The gravel was discolored for several inches below the layer of

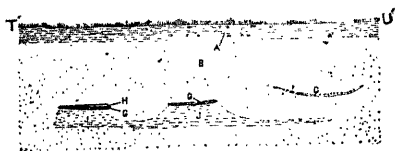


FIG. 12. Vertical cross section T', U', through Grave J, Ellsworth, Me. A. Topsoil. B. Sand. C. Ashes and charcoal. G, G. Red ochre. H. Slate spearpoint. J, J. Sand cemented into a compact mass.

bark, but it was impossible to tell whether the earth had been disturbed or merely discolored by the percolating lye from the ashes. It is to be regretted that the gravel had been removed from the upper portion of this grave as it also removed the greater portion of the ash bed which was

probably present just below the top soil. This burial had few features in common with the other graves in this cemetery, and may be of a later date. No implements or traces of red ochre were found.

The gravel immediately south of Grave N was coarse and contained a large amount of iron which had cemented it into a compact mass not easily broken with a pick.

Still farther to the south the gravel became finer and was finally replaced by sand in Sections 9 and 10. The exposed wall of sand at the western edge of the gravel pit showed no signs of stratification, neither were there any indications of its ever having been disturbed even within the limits of Grave J. As the wall of sand was gradually removed, a layer of red ochre was encountered twenty-one inches from the surface (at the left in vertical cross section, Fig. 12) and upon it lay the finely finished slate spear

¹ Professor Putnam found a large piece of birch bark in an Indian's grave in Winthrop, Mass., which must have been over two hundred years old.

point illustrated in Fig. 13. About a foot farther to the north (Fig. 12) lay another mass of ochre without implements. Still farther to the north and on a higher level were found ashes and bits of charcoal. The sand below the layers of ochre was somewhat discolored and portions of it were cemented into compact masses, evidently by the line from the skeleton. No fragment of bone or particle of bone dust was found, nor could the line of demarcation between the disturbed and undisturbed sand be determined. South of Grave J an undulating line of light red ochre extended north and south for a distance of twelve feet, four inches, at an average depth of two feet below the surface, the maximum depth being thirty inches. The ochre varied in thickness from one-half inch to three inches. Small quantities of ashes and charcoal were encountered at an average depth of eight inches from the surface.

The implements illustrated in Fig. 14 were taken from various depths, each implement lying in a little mass of ochre of a darker shade than that forming the continuous line below. The relative position of the implements is shown upon the plan. (Plate I, Section 10.)

The first implement discovered in Grave K was the pendant illustrated in Fig. 14 *f* (the most easterly in the plan). This lay in a mass of ochre twelve inches from the surface. Two inches below this deposit was a disc-shaped discoloration of the sand five inches in diameter and three-quarters of an inch in thickness which was separated from the ochre above and below by a layer of pure sand. The sand was discolored and cemented in several places below the implements. South of the main deposit of implements a single pendant (No. 20) lay twenty-four inches beneath the surface in a mass of red ochre. As this relic may have been deposited in another grave, it is not included in the illustrations of objects from Grave K. Thirty inches from the surface and near the centre of the deposit lay the chipped knife, the pendant, and the sharpening stone illustrated in Fig. 14, *g*, *e* and *i*. The two celt-like blades *a* and *b* were twenty-eight inches below the surface. Six inches above and to the north of the smaller of these blades was found the pendant (*d*) with a much disintegrated surface. The other

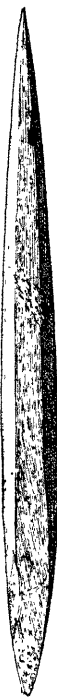


FIG. 13.
Polished
slate spear-
point.
Grave J,
Ellsworth,
Me. $\frac{1}{2}$

implements are a small chisel, probably once fitted to a handle of wood or antler (*h*) and a typical specimen of a felsite hammerstone (*j*) once forming a part of a fire-making set. Its companion, a lump of iron pyrites, had become entirely disintegrated, nothing remaining of it save a few particles of yellow oxide of iron which lay in the sand and adhered to the hammerstone. This hammerstone, like most of these implements obtained during the explorations, is skilfully fashioned to fit the fingers, only one side being used to strike the pyrites — the upper and right hand side as shown

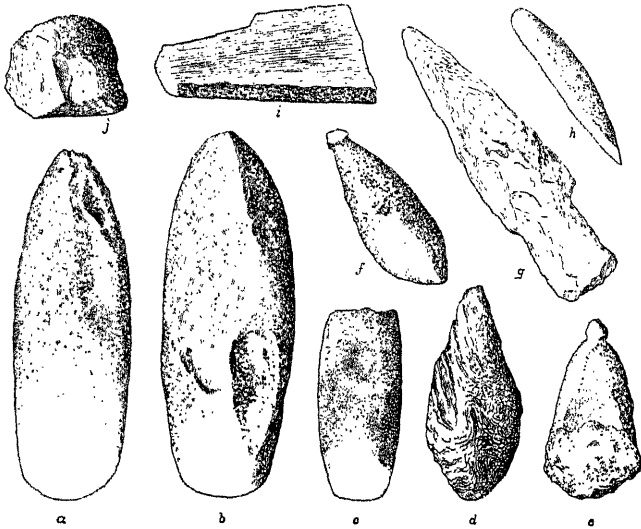


FIG. 14. Implements from Grave K, Ellsworth, Me. *a, b, c.* Celt-like blades. *d, e, f.* Pear-shaped pendants. *g.* Chipped knife. *h.* Small chisel-like implement. *i.* Polishing stone. *j.* Felsite hammerstone, part of a fire-making set. $\frac{1}{2}$.

in the drawing. The lower portions of the celt-like blades obtained from this grave are polished and the cutting edges are sharp and in perfect condition, while the upper portions are rudely finished and were probably inserted into sockets of wood or antler.

The material removed from the southern part of the large gravel pit previous to my explorations was principally sand. A number of graves were encountered during the removal of the sand and many implements were found.

The Peabody Museum is fortunate in receiving as a gift a large portion of these implements. They consist of eighteen celts, a

pear-shaped pendant, fourteen large chipped knives or spearpoints of which Fig. 15 is a good example, and sixteen finely polished and gracefully shaped lanceheads, typical forms of which are shown in Fig. 16. The majority of these lanceheads are of compact green slate, with cross section either lenticular, lozenge-shaped or octagonal. No reliable information could be obtained regarding their positions in the graves. It was said that they were found about two feet from the surface lying in red ochre. It is probable that their positions were not dissimilar to that of the specimen taken from Grave J. This lancehead had probably been fastened to a shaft and placed with the body lengthwise in the grave, the slate point evidently occupying a position near the head.

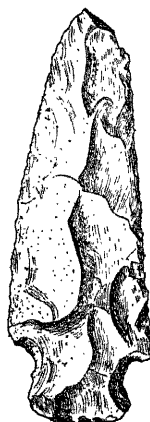


FIG. 15. Type specimen of chipped implements from graves in large gravel pit, Ellsworth, Me. $\frac{1}{2}$

Judging from the graves of which the outlines could be traced, there were three kinds of burials in this ancient cemetery. The first consisted of bowl-shaped cavities dug to a depth of from thirty-eight to fifty-three inches. Within the cavity the body was placed, probably in a flexed position and accompanied by various worldly possessions of the deceased. The grave was then filled with gravel and a fire kindled over it. The second type of burial was similar to this, the principal differences being in the size of the grave and the number of bodies deposited therein. The third type differed from the others in having the body placed at length in a shallow grave.

BURIAL PLACE AT BUCKSPORT.

Bucksport is eighteen miles below Bangor upon the eastern bank of the Penobscot river. The peninsula upon which the ancient cemetery is situated is locally known as Indian Point, and lies about a half mile above the village. The river widens just south of this point and forms a broad, shallow bay, bordered by a pebbly beach. Rising from this beach to a height of fifteen feet is a bluff. A few feet from its edge lies a gravel knoll, the site of the burial place. A greater part of this cemetery was free from the growth of sapling pines which covered the rest of the ridge.

In 1891 Mr. George Blodgett had occasion to remove gravel from the southern slope of the ridge. After a number of cart loads had been removed, one of the workmen noticed a well wrought stone implement embedded in the gravel. Continued excavations revealed other specimens lying in red ochre, and by searching along the road where the gravel had been placed for repairs several more were found.

North of the gravel pit a space about fifteen feet by fifty feet was subsequently dug over by residents of Bucksport in search of relics. The number of implements found could not be ascertained, but about forty were shown to the author.

An examination of the unwooded part of this knoll adjoining the gravel pit gave evidence of the presence of other graves, and preparations were accordingly made for a careful investigation of the undisturbed portion of the cemetery. The ground was staked off into sections twelve and one-half feet square, and a plan made. With the exception of F, all the sections in the plan (Plate III) contained burials. Other sections explored, but containing no burials, are not shown upon the plan.

To the south of the area included in the plan lay the gravel pit and the ground dug over by residents in search of relics. To the west an outcrop of clay replaces the gravel. No burials were found in this clay. A thick growth of sapling pines covered the knoll to the

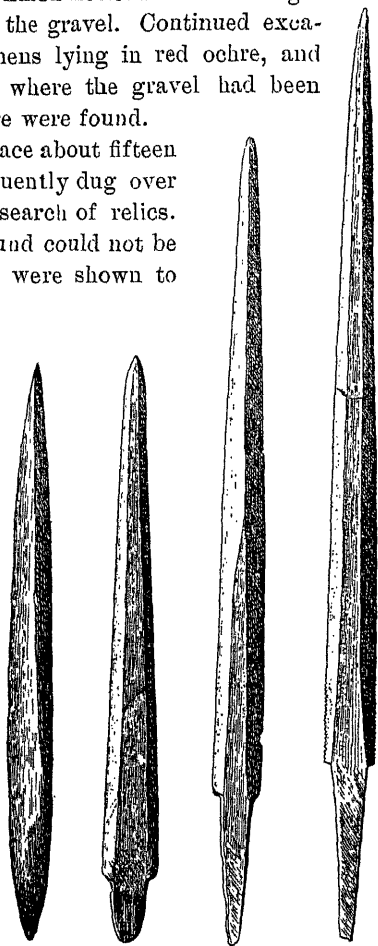
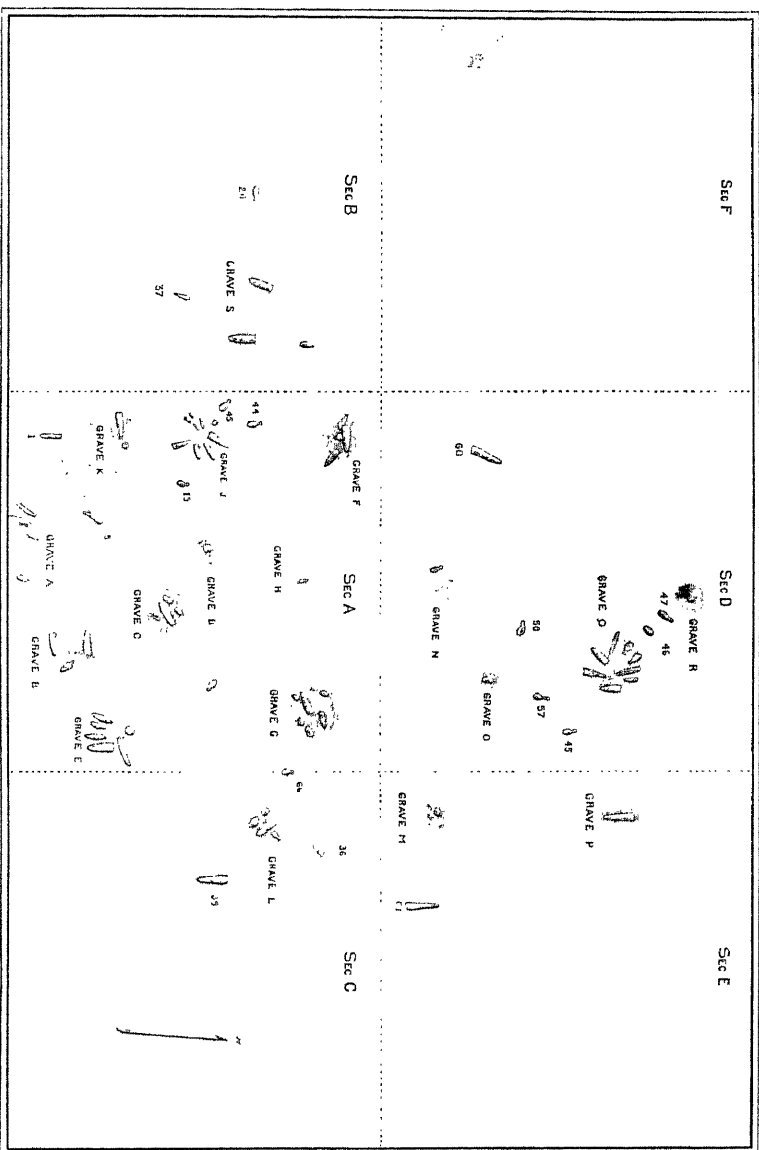


FIG. 16. Type specimens of polished slate spearpoints from graves in large gravel pit, Ellsworth, Me. †



PLAN OF PREHISTORIC BURIAL PLACE, BUCKSPORT, MAINE.

THE SHADING INDICATES RED OCHRE, UPON OR WITHIN WHICH MOST OF THE IMPLEMENTS WERE FOUND.

north and east. Not having permission to remove these trees this part was not explored.

The gravel was comparatively coarse and very compact, rendering necessary the use of a pick.

SECTION A.

Sinking a trench along the southern edge of the undisturbed gravel and working north, a line of ochre was disclosed twenty-four inches from the surface at the southern edge of Section A. The vertical bank of earth was examined with the utmost care to

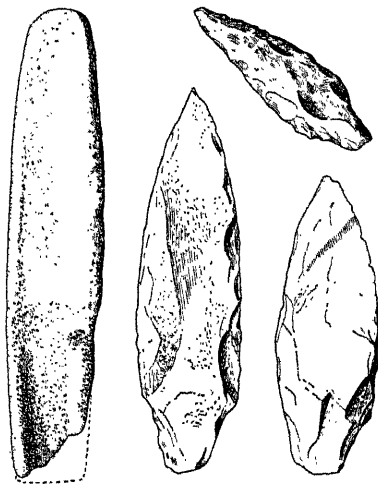


FIG. 17. Implements from Grave A, Section A, Bucksport, Me. $\frac{1}{2}$

ascertain the outline of the grave, but neither in this nor in any of the other graves could the outline be determined. This was probably due in great measure to the coarseness of the gravel. The graves were also so near to each other as to leave only a small amount of undisturbed earth within the area of the cemetery.

Removing the earth from above the deposit of ochre the group of implements, illustrated in Fig. 17, was brought to light. The relative positions of the implements are shown in the plan, Plate III, Section A, Grave A. The gouge at the left, in Fig. 17, shows

considerable weathering and has a broken edge. This implement was lying upon its side, the position in which it was probably deposited. Near the gouge were two large chipped knives of slate, lying one upon the other with their points towards the south. By the side of these implements was a smaller knife of felsite, with its point toward the north. A foot to the north of this group a gouge (No. 5) was unearthed lying upon its side in a little mass of ochre. About the same distance to the left, outside the ochre and six inches below its level, was a small gouge (No. 1), having a narrow cutting edge which had evidently been ground several times. Following the diminishing line of ochre, a rude celt eight inches in length was unearthed lying in a horizontal position, and near its upper end and standing upright was a short, well-made celt, with a sharp, slightly curved cutting edge. (Grave K.)

Grave B, Section A, contained two deposits of ochre, the first being eighteen inches below the surface and containing a short thick celt with a slightly curved cutting edge, similar to the one last described.

The second deposit lay at a depth of twenty-seven inches, and consisted of a mass of ochre, a celt having a weathered surface, a chipped knife, and a mass of yellow oxide of iron in powder which was all that remained of the firestone of iron pyrites originally placed in the grave.

A short distance to the northeast was Grave E, twenty-eight inches below the surface, containing the group of implements illustrated in Fig. 18. The finely formed and beautifully finished gouge *a*, which lay upon its side, retains its cutting edge in perfect condition. The groove extends not quite half the length of the tool, and is about one-quarter of an inch deep. This implement is polished for about one-fourth of its length above the cutting edge, and the remainder is finished by the process known as pecking, being the best example of this style of work which I have seen. This gouge, like many similar implements from these burial places, is made of a compact metamorphic igneous rock. The chisel-like tool of compact green slate illustrated in *b*, Fig. 18, is about a half inch in thickness with a nearly straight cutting edge. It has a perforation near the smaller end. By the side of this tool lay three rudely chipped knives of felsite, *c*, *d*, and *e*, with their points toward the south. They were probably once hafted in short

handles of wood or antler, and must have been very old when placed in the grave, as their surfaces in several places show polish by long use. The felsite of which these knives are made resembles very closely the body rock of Mt. Kineo, Moosehead Lake. While the material may have been obtained from some erratic boulder torn from the mother rock and deposited by glacial action, it is more likely to have been brought by the Indians from Mt. Kineo, since near the base of this mountain the author has discovered several ancient Indian workshops where felsite was extensively worked.

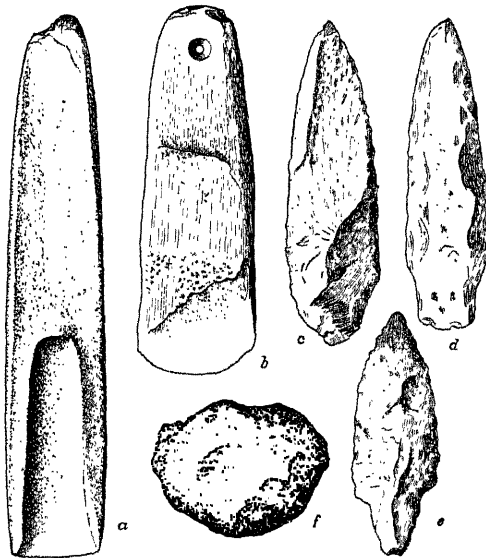


FIG. 18. Implements from Grave E, Section A, Bucksport, Me. *a*, Gouge. *b*, Perforated celt-like implement. *c*, *d*, *e*, Chipped knives. *f*, Firestone. $\frac{1}{2}$

The firestone, *f*, is one of the best preserved specimens obtained from these graves. Although somewhat disintegrated the surface exposed by a recent fracture shows unchanged crystals of pyrites. Its specific gravity is greater than any of the other firestones recovered, and it is the only example in which all or nearly all of the pyrites has not undergone chemical change.

Grave C, thirty-three inches below the surface, contained an unusually large amount of red ochre of exceptionally brilliant color.

Embedded in the paint were the implements illustrated in Fig. 19. These consist of a well-wrought celt, an elongated pebble with polished surface probably used as a paint pestle, and a fire-making set composed of a felsite hammerstone (shown at the left in the illustration), fashioned to fit the fingers of the right hand, with the battered surface upon one side, and a lump of limonite the result of the decomposition of a nodule of pyrites placed in the grave. A pear-shaped pendant without accompanying ochre lay about two feet from this deposit at a depth of five inches.

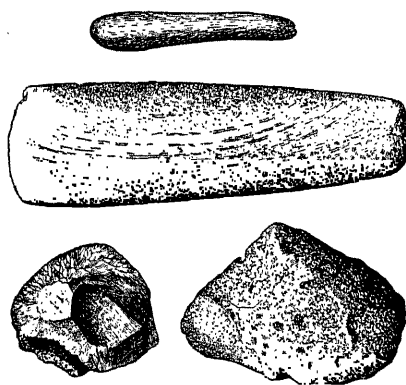


FIG. 19. Implements from Grave C, Section A, Bucksport, Me. An elongated pebble, probably a paint pestle, a celt-like blade and a fire-making set. $\frac{1}{2}$

Grave D, a short distance to the northwest, contained a small mass of red ochre eighteen inches from the surface. Upon the ochre had been placed two firestones. These implements were badly decomposed, all that remained of one being a small quantity of yellow powder (oxide of iron) while its companion had nearly disappeared, only a small crust-like substance covered with iron oxide remaining.

The implements illustrated in Fig. 20, together with the usual deposit of red ochre, were found in Grave J, Section A.

The great majority of objects taken from the graves were evidently found in nearly the same position in which they were deposited. In a few instances the implements had apparently been displaced by the decay of the body and the settling of the earth. This displacement was very apparent in Grave J. The objects

were lying at different angles and at depths varying from six to eighteen inches. The principal deposit of ochre was eighteen inches below the surface.

A gouge with a shallow groove, its surface being unpolished, is shown at *a*, while *b* shows the back or convex side of a celt-like blade of harder material than the preceding specimen. The edge

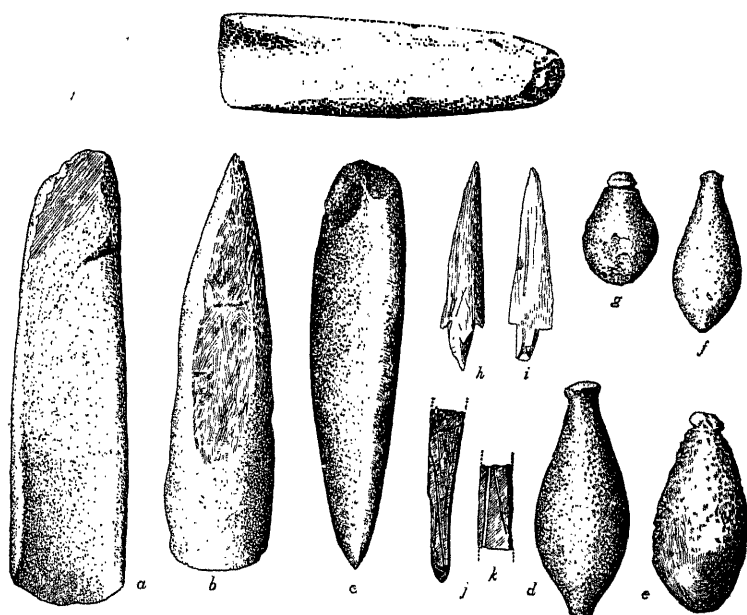


FIG. 20. Implements from Grave J, Section A, Bucksport, Me. The upper drawing and *a*, are gouges. *b*, *c*. Celts, or celt-like blades. *d*, *e*, *f*, *g*. Pendants. *h*, *i*. Polished slate arrowpoints. *j*, *k*. Fragments of a small slate implement ornamented with incised lines. $\frac{1}{4}$.

is slightly curved. The upper portion of the implement is rudely fashioned and was probably inserted in a socket of wood or antler, or lashed to a wooden handle after the manner of adze blades or skin scrapers in use among the Eskimo. A side view of a thick blade or celt with cutting edge slightly curved is given at *c*. The implement is polished for a short distance above the edge, the remainder of its surface showing rough pecking. The gouge at the

top of the illustration is of the ordinary form although the groove is relatively shorter than in the majority of the specimens found. The pendants *d*, *e*, *f* and *g* are of different sizes. Various degrees



FIG. 21. Chipped arrowpoint, Grave H, Section A, Bucksport, Me. $\frac{1}{2}$

of skill are shown in their manufacture, although none are polished. The three largest were found outside the layer of ochre, two at a depth of six inches, and the third seventeen inches below the surface. Two fragments of an object of dark slate, *j* and *k*, are ornamented with longitudinal incised lines. The remaining portion of this object could not be found. The implements *h* and *i* are probably arrowpoints. They are made of light green slate and are polished. When found they were lying side by side with their points toward the zenith.

Another deposit of ochre at a depth of eighteen inches (Grave H) was found a short distance to the northeast. Lying upon the paint was the small arrowpoint illustrated in Fig. 21, while near the ochre were a few ashes which are indicated by the dotted circle in the plan. A discoloration of the earth was noticed near the ochre, probably occasioned by the decomposition of the body.

Grave G, in the northeast corner of Section A, contained two deposits of red ochre, one nearly over the other, at depths of eighteen and twenty-two inches. A rude knife, consisting of a single chip struck from a water-worn quartz-



FIG. 22. Rude knife (a chip from a small quartzite boulder), Grave G, Section A, Bucksport, Me. $\frac{1}{2}$



FIG. 23. Celt-like implement (a stone of natural or slightly modified form), Grave G, Sec. A, Bucksport, Me. $\frac{1}{2}$

ite stone, Fig. 22, was the only object found in the lower deposit of ochre. Upon the deposit of paint nearer the surface lay two weathered celts with slightly curved cutting edges, a pair of firestones changed to limonite, and the rude celt-like implement of natural or slightly modified form shown in Fig. 23.

In Grave F, near the northwest corner of Section A, at a depth of twenty-six inches were found the well-preserved implements illustrated in Fig. 24. The larger implement *b* is a celt of medium size with a perfectly preserved

and slightly curved cutting edge. A shallow groove runs nearly the entire length of the side shown in the drawing. The surface of the tool is polished for a short distance only upon either side above the edge. The smaller celt or blade, a side view of which is given in *a*, has a cutting edge but slightly curved. Both of these specimens are made of a fine-grained metamorphic igneous rock. The chipped knife *c* lay beneath the edge of the larger implement in the position shown in the plan. The pendant *d* with a countersunk depression in its lower side was also in contact with the celt.

SECTION B.

But three small deposits of ochre were found in Section B. They were about three feet apart and were probably placed in one grave (Grave S), although it is possible that each deposit marked a separate grave. One of the masses of ochre (No. 37), at a depth of twenty-five inches, contained the polished slate arrowhead illustrated in Fig. 25. The ochre a short distance to the northeast, also at a depth of twenty-five inches, contained a small gouge with battered edge. To the left of this implement lay a wedge-shaped celt with a nearly straight cutting edge.

The upper portion was rudely made and tapered to a blunt point which probably fitted into a socket. This blade was accompanied by a small quantity of ochre at a depth of sixteen inches. A short distance to the north, twenty-four inches deep in the gravel, lay a pear-shaped pendant unaccompanied with paint. A second pendant (No. 20) was found north of the centre of Section B, lying beneath the sod.

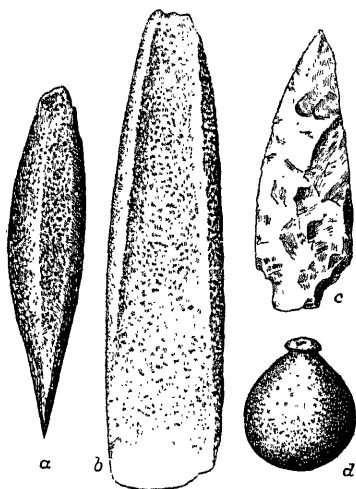


FIG. 24. Implements from Grave F, Section A, Bucksport, Me. *a*, *b*. Celt-like blades. *c*. Chipped knife. *d*. Pendant. †

SECTION C.

The only burials found in this section were in the northwest corner. Each deposit may mark a separate grave. Owing to the coarseness of the gravel and the length of time which had elapsed since the graves were made, all traces of the line of demarcation had disappeared and it was impossible to determine their outlines. Consequently it could not be ascertained whether the single implements in deposits Nos. 35, 36 and 66 belong to Grave L or mark separate burials.



FIG. 25. Polished slate arrow-point, Grave S, No. 37, Section B, Bucksport, Me. $\frac{1}{2}$

These deposits of ochre were thirty inches beneath the surface. No. 66 contained a pendant of the usual form. There was also a very small quantity of yellow oxide of iron, the remains of a firestone.

No. 35 contained a gouge of uncommon form, nine inches in length, with a slightly curved cutting edge two and one-half inches in width. The implement gradually narrows to one and one-half inches at the smaller end. The groove is broad and shallow.

No. 36 contained a small flat pebble, highly polished.

The implements shown in Fig. 26 were taken from Grave L. They consist of a pendant, a celt and a fire-making set. The felsite hammerstone is shown at the left. The nodule at the right is the matrix which enclosed crystals of iron pyrites. The crystals have disappeared, only a little oxide of iron in powder remaining in the cavities.

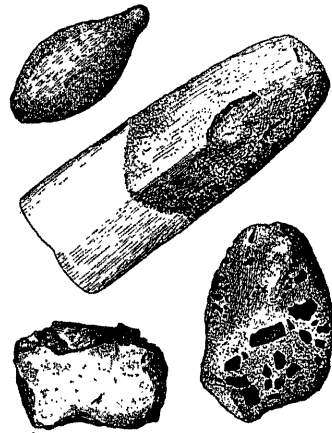


FIG. 26. Implements from Grave L, Section C, Bucksport, Me. Pendant, celt-like blade and fire-making set. $\frac{1}{2}$

SECTION D.

A large gouge (No. 60), with a shallow groove and part of its edge broken away, was found just below the turf unaccompanied

by ochre. This was probably left upon the surface, as its broken edge would render it useless as an implement.

Grave N contained a small mass of ochre twelve inches from the surface, and a pendant of the usual form lying at one side of the paint.

A mass of ochre and the remains of a fire-making set were taken from Grave R at a depth of sixteen inches.

Grave Q contained the series of implements illustrated in Fig. 27. A small deposit of ochre was encountered eighteen inches beneath

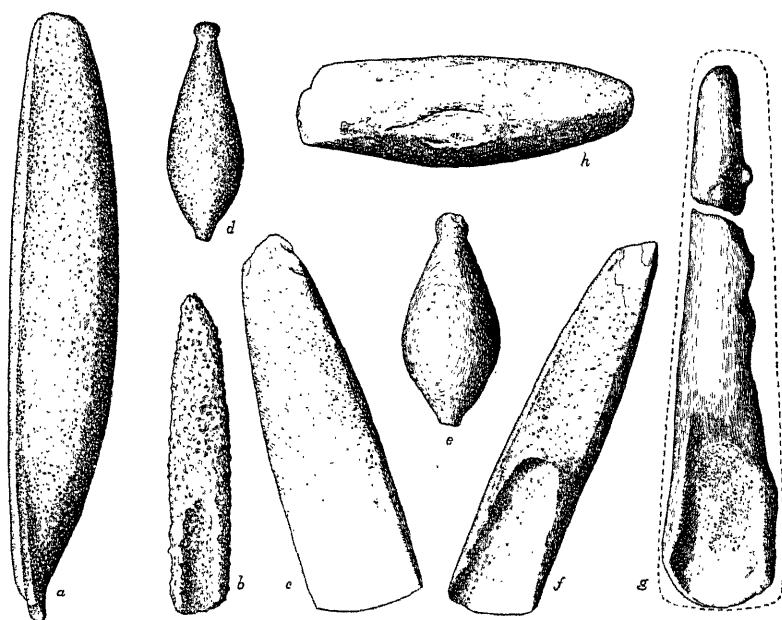


FIG. 27. Implements from Grave Q, Section D, Bucksport, Me. *a, b, f, g.* Gouges. *c, h.* Celt-like blades. *d, e.* Pendants. }

the surface together with a large and small gouge, *a* and *b*, the celt *c* and the two pendants *d* and *e*. The position of these implements is shown in the accompanying illustration, Fig. 28. Three large stones had been placed in the grave with the body; these are also shown in the drawing. After photographing this deposit and removing the stones, three additional implements *f*, *g* and *h* were found beneath the stones, and also a small quantity of yellow oxide of iron, all that remained of a fire-making set.

Some of these implements bear evidence of extreme age. Fig. 27 *a* is a gouge originally of beautiful form and finish. The surface is much weathered, the cutting edge having wholly crumbled away. That portion of the implement near the edge turns backward, an unusual way of finishing this part of the tool. The small gouge *b* is very much weathered, the whole surface of the implement being badly corroded, the cutting edge and the greater portion of its lower end having become wholly disintegrated. The well-preserved blade *c*, made from a compact stone, is evidently formed for insertion in a socket. The implement is polished for a space upon either side above the straight edge which is perfectly preserved. Two well-modelled pendants, *d* and *e*, have unpolished

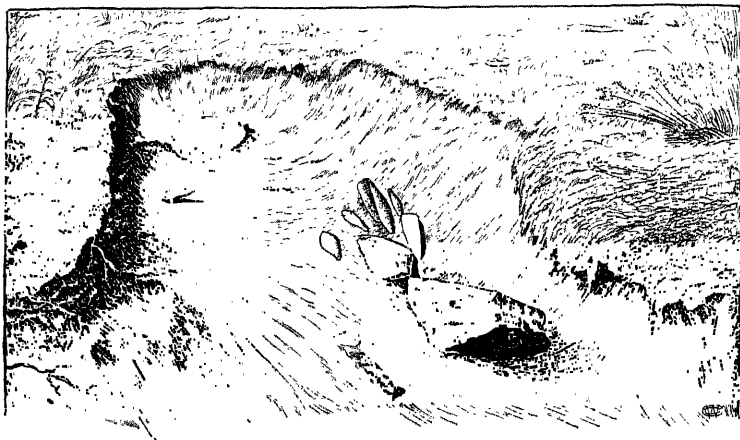


FIG. 28. Grave Q, Section D, Bucksport, Me. (From Photograph.)

surfaces. The implement *h* with a slightly curved edge had been placed in contact with a firestone, the oxidation of which caused the disintegration of that portion of the blade near the point of contact. The gouge shown in *f* was lying in a small quantity of ochre. The edge is in a good state of preservation and is unevenly ground. This tool shows little weathering. The badly disintegrated specimen *g* was lying near, but not in contact with, a mass of yellow oxide of iron in powder, the remains of a firestone. This gouge was broken in two pieces, probably by the weight of a large stone found above it. It was probably broken soon after its burial. The dotted lines indicate very nearly the original outline of the gouge,

and although it was made of comparatively soft stone it exhibits a remarkable amount of decomposition. This implement was buried about two feet beneath the surface and the decomposition was wholly subsequent to its burial as is proved by the contour of the broken edges of the two pieces. The oxidation of the firestones doubtless assisted in this destruction.

The six pendants, illustrated in Fig. 29, were lying in various positions within a radius of three feet from the principal deposit of implements in Grave Q. The depths at which they were found varied from ten to eighteen inches. One of these pendants, *e*, was accompanied by red ochre and a small quantity of yellow oxide of iron (Grave O). The others were unaccompanied by pigment, and they may form parts of the deposits within Graves O, Q and R.

Fig. 29 *a* and *b* were between Graves Q and R. The latter

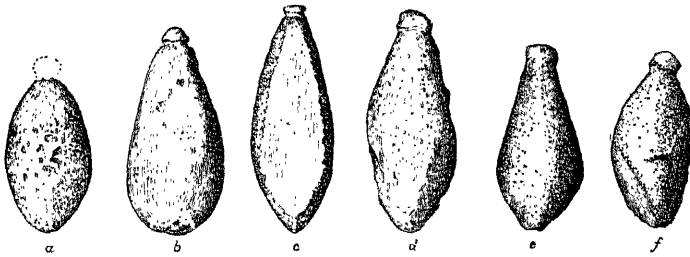


FIG. 21. Pendants from near Grave Q, Section D, Bucksport, Me. $\frac{1}{2}$

implement (No. 47, plan) is also shown lying a short distance to the left of the main deposit in Fig. 28. The pendant *c* (No. 45, plan) is made from a broken celt or gouge, the flattened, polished sides of the blade forming the sides of the pendant. The two other specimens, *d* (No. 57, plan) and *f* (No. 50, plan), are rudely fashioned. The natural surface of the stone from which the latter was formed is shown near the base upon either side.

Grave R contained ochre at a depth of sixteen inches and a felsite hammerstone once forming part of a fire-making set.

SECTION E.

This section contained but two burials, Graves M and P. A large, straight-edged blade, No. 61, was found just beneath the sod. This was probably left upon the surface by the Indians.

A large gouge with shallow groove and slightly curved edge lay with ochre ten inches beneath the surface in Grave P.

The deposit in Grave M consisted of the usual quantity of red ochre, a small amount of buff powder, probably pigment, a highly polished pebble, probably used as a paint pestle, and the remains of two firestones, one of which had changed to limonite. Nothing remained of the second nodule but a mass of yellow oxide of iron in powder.

SECTION F.

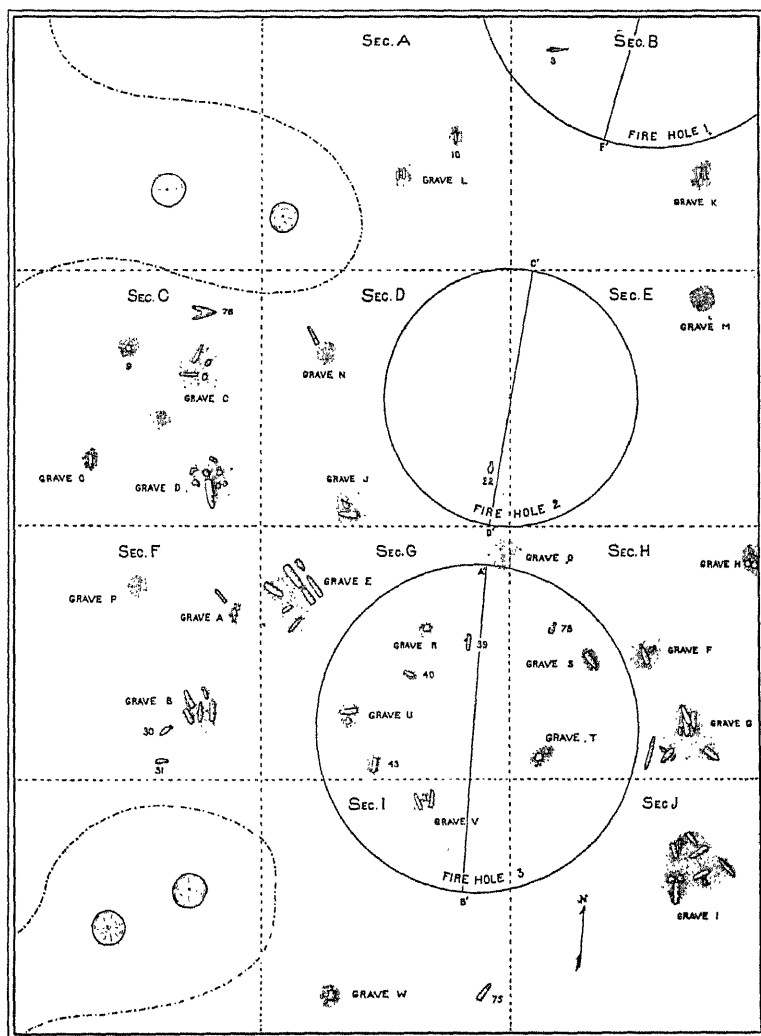
No implements were discovered in Sec. F. Two small deposits of ochre occurred just under the sod, and a few ashes were also found which are indicated by the dotted circle.

In a few instances dark discolorations of the gravel, the result of decomposing human remains, were noticed in connection with the graves in this cemetery. The discolorations were fewer and of less extent than in the Ellsworth burial place. Ashes were found only incidentally. There were no well-marked ash beds over the graves, but ashes occurred in sufficient quantities to show that fires were lighted over the graves as at Ellsworth.

I found no burials outside the area included in the plan, although considerable ground was explored. Two or three implements lying near the surface were discovered which had been discarded or accidentally lost.

BURIAL PLACE AT ORLAND.

This ancient cemetery was located upon a symmetrical gravel knoll of glacial formation, rising from the shore of a small inlet or bay upon the western side of Lake Alamoosook, near its outlet. The summit of the knoll is fifteen feet above the surrounding low land. Its oval base has a maximum diameter of about one hundred feet. The knoll and the surrounding land were covered with a thick growth of wood, many of the trees being a foot or more in diameter. Three depressions from twenty-seven to thirty-two inches in depth and having diameters at the surface of from ten to fourteen feet occupied the summit of the knoll. (See Plate IV, Fire-holes 1, 2 and 3, and Figs. 45, 46, 47.) These depressions were called "Indian cellars" by the people of the neighborhood. A superficial examination of these depressions resulted in obtaining



PLAN OF PREHISTORIC BURIAL PLACE, ORLAND, MAINE.

THE SHADING INDICATES RED OCHRE, UPON OR WITHIN WHICH MOST OF THE IMPLEMENTS WERE FOUND.

several pieces of charcoal and some ashes. Being convinced of the Indian origin of these depressions, a narrow trench was cut along the summit of the knoll and at a depth of fifteen inches were found a mass of red ochre and two implements. (Plate IV, Grave J, Section D.)

This land is owned by Mr. J. Foster Soper of Orland, who not only granted permission to explore the burial place but assisted in many ways.

All the trees upon the knoll were removed with the exception of three large oaks and a white birch. The positions of these are shown near the corners at the left on Plate

IV. The trees were removed in the following manner. Each tree was cut off five or six feet from the ground and ropes and double blocks fastened to the upper end of the stump and to a neighboring tree. A pair of oxen was hitched to the end of the rope and the stumps drawn out without disturbing the earth to any great extent. The roots of the trees did not penetrate deep enough to displace any of the implements. After removing the stumps, the ground was staked off in sections ten feet square, and the explorations were conducted in the same manner as at the burial places already described.

The whole area of the gravel knoll was explored, but the graves were found principally upon its summit and western side. No traces of bone were found in any of these graves, neither could the outline of any grave be determined. Various natural causes, including the percolation of water during many centuries, had completely obliterated all traces of the line of junction between the disturbed and undisturbed gravel. The outlines shown in the vertical sections of the large fire holes could, however, be traced.



FIG. 30. Polished pebbles from Grave L, Section A, Orland, Me. $\frac{1}{2}$



FIG. 31. Polished slate point No. 3, Section B, Burial Place, Orland, Me. $\frac{1}{2}$

SECTION A.

Two deposits of red ochre were found in this section, but I am uncertain whether these indicate the presence of one or two graves. The larger deposit of ochre, Grave L, contained the two polished

pebbles of natural form illustrated in Fig. 30. They lay thirty inches below the surface. A knife chipped from compact stone, resembling felsite, lay twenty-four inches below the surface in the smaller mass of pigment (No. 10).

SECTION B.

This section contained but one grave (K). Upon the ochre, twenty inches from the surface, had been deposited two very rude celts with slightly curved cutting edges, also a polishing stone or paint pestle of natural form, and a fire-making set. Nothing re-

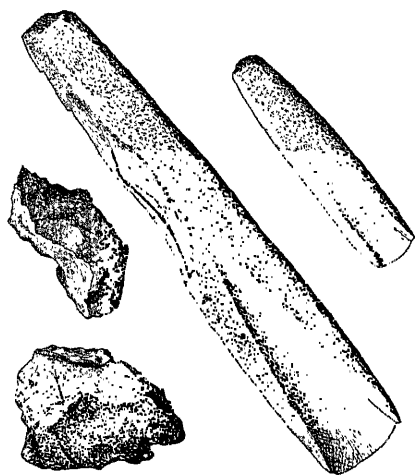


FIG. 32. Implements from Grave C, Section C, Orland, Me. $\frac{1}{4}$

mained of the decomposed pyrites but a mass of yellow powder. A polished point (Fig. 31) was found four inches below the surface, just within the saucer-shaped depression of fire hole No. 1. It was made of a light green compact slate similar to the material from which the polished points from Ellsworth and Bucksport were manufactured.

SECTION C.

Grave O, twenty-nine inches from the surface, was encountered near the southwestern corner of this section. It contained the usual red pigment and a medium-sized celt which had evidently been inserted in a handle. The edge was sharp and slightly curved.

Grave C contained a large quantity of ochre at a depth of thirty-six inches. Upon the pigment were the remains of two firestones and the finely finished gouges illustrated in Fig. 32. The larger gouge had been placed in contact with one of the firestones, the oxidation of which caused the gouge to crumble at the point of contact. The smaller gouge, four inches in length, is a fine example of ancient stone working.

Two small masses of paint lay about two feet from these implements in a position which formed with this deposit three points of a triangle. These small deposits of ochre may have been a part of Grave C, but it seems more probable that they marked separate graves. One was twenty-four inches below the surface



FIG. 33. Grave D, Section C, Orland, Me. (From Photograph.)

and did not contain any object. Its companion (No. 9), at a depth of twenty-two inches, contained a partially disintegrated firestone.

Near the southeastern corner of the section red ochre was encountered at a depth of thirty-six inches (Grave D), together with a gouge ten inches in length which lay with its grooved side downward. This was accompanied by a very small gouge two and three-eighths inches in length with a cutting edge three-fourths of an inch in width, two partially disintegrated firestones, a mass of yellow oxide of iron in powder and three round water-worn pebbles, one inch, one and one-half inches, and one and three-quarters inches in diameter respectively, their forms unmodified by art (Fig. 33). The pebbles were very symmetrical, being nearly globular, and their

surface showed no signs of use as implements. After photographing and removing the implements another crumbling firestone was found which is not shown in the illustration. A part of the cutting edge of the large gouge and a portion of its side was in a crumbling condition owing to its contact with a lump of pyrites. The small gouge was in perfect condition, its edge being appar-

ently as sharp as when placed in the grave. This implement would be of little value unless inserted in a handle and it is probable that it was hafted when deposited.

The unique stone implement illustrated in Fig. 34 was found just below the sod (No. 76, Plan). It was roughly fashioned and parts of it, notably the V-shaped cavity and edges, show marks of pecking. The point is somewhat worn. This object if properly hafted would answer admirably for a digging implement and may have been employed in digging the graves.



FIG. 34. Implement, No. 76, from just beneath sod, Section C, Burial Place, Orland, Me. }

SECTION D.

Two graves were found in this section. Grave J, fifteen inches below the surface, is the one already alluded to as discovered while sinking the preliminary trench. This contained a medium-sized gouge and a rude pendant of the typical form embedded in red ochre.

Grave N, situated a few feet farther north, contained a mass of red ochre ten inches below the surface. At one side of the pigment and at the same level lay the fine example of ancient stone art of which Fig. 35 is a drawing.

One or more firestones of pyrites had been placed in the grave in contact with the implement. These had become entirely disintegrated, nothing remaining but a small quantity of yellow powder adhering to the gouge. Within the limits of fire hole No. 2, a

pendant (No. 22) was unearthened thirty-six inches below the surface. No ochre accompanied the implement.

SECTION E.

Indications of but one burial were found in this section. This grave (M) contained only a mass of ochre twenty inches from the surface.

SECTION F.

Grave P contained only red ochre, at a depth of twenty-one inches.

In Grave A a mass of red ochre was discovered thirty-two inches beneath the surface. Upon the point lay the chipped knife of black flint illustrated in Fig. 36. The angles formed by chipping are worn and polished, probably by the long use of this tool as a cutting implement. Its companion, a small gouge, is also illustrated in Fig. 36. This was found just outside the ochre. The cutting edge is less than a half inch in width and is perfectly preserved.

The contents of Grave B, with the exception of two pendants (Nos. 30 and 31), are shown in Fig. 37. This drawing was made from a photograph and shows the exact positions in which the implements were found. The two pendants (Nos. 30 and 31, Plate IV) lay at the same depth as the main deposit (27 inches) and evidently belong to the same grave. They were removed before the main deposit was uncovered, hence they do not appear in Fig. 37. The implements shown in this illustration consist of two gouges, two celts and a pendant lying upon a small quantity of red ochre.

The implement lying nearest the wall of earth is a well-formed gouge with its grooved side downward. Near the centre of the deposit was another gouge with a narrow cutting edge. A celt with a slightly curved cutting edge lay near



FIG. 35. Gouge, from Grave N, Section D, Orland, Me. $\frac{1}{2}$

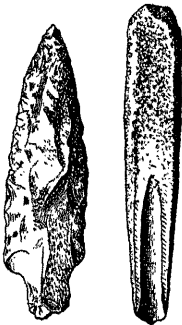


FIG. 36. Implements from Grave A, Section F, Orland, Me. $\frac{1}{2}$

this gouge and to the right was another celt of similar form. The pendant at the left is small and roughly made.

SECTION G.

Grave R, twenty inches in depth, contained ochre and a disintegrated firestone. A short distance from this deposit were two other masses of ochre, Nos. 39 and 40, one at a depth of twelve inches, and the other twenty inches below the surface. Above the former deposit of red ochre, but not in contact with it, was a celt with battered surface and broken edge. The latter deposit of ochre

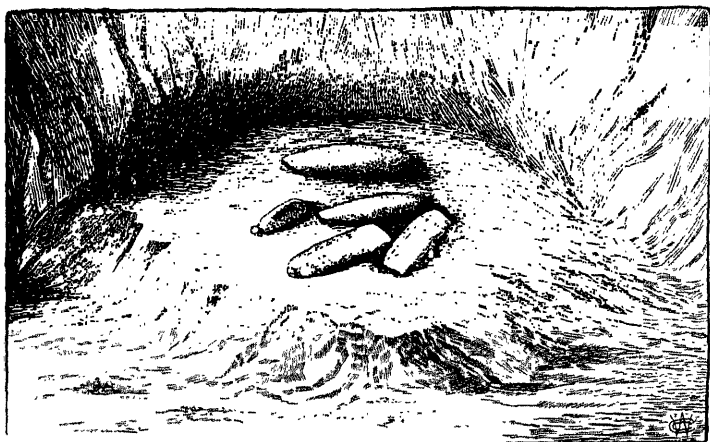


FIG 37. Grave B, Section F, Orland, Me. (From Photograph.)

contained a pendant and a little oxide of iron, the remains of a firestone.

A felsite hammerstone once forming a part of a fire-making set, a celt, and the disintegrated remains of a nodule of pyrites, were found upon red ochre at a depth of twenty-nine inches in Grave U. About three feet to the southeast of this grave lay a gouge with shallow groove, a small mass of yellow oxide of iron and a deposit of red ochre (No. 43).

Grave E. In the northwest corner of this section and outside the limits of fire hole No. 3, at a depth of thirty-two inches, lay the seven implements illustrated in Fig. 38, together with the usual

quantity of red ochre. The gouge *a*, with a portion of its edge broken away, lay farthest to the west with its grooved side downward and its cutting edge outward. A similar but shorter gouge, *b*, was the most easterly in the grave. This was also lying with the grooved side downward and its cutting edge outward. The celts *c* and *d* have nearly straight cutting edges. They were lying near the middle of the grave with their upper ends near together and their edges outward. The rude implement *e*, which somewhat resem-

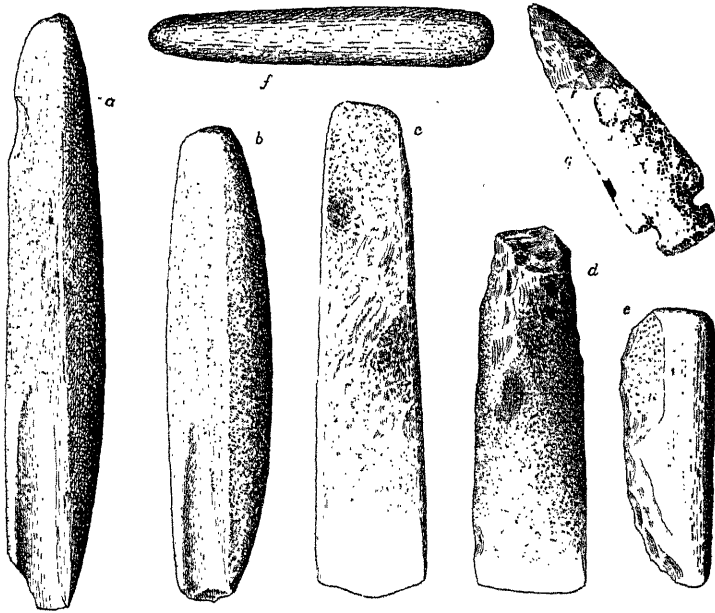


FIG. 38. Implements from Grave E, Section G, Orland, Me. *a*, *b*. Gouges. *c*, *d*. Celt-like blades. *e*. Pebble with battered edge. *f*. Pebble with polished surface used as an implement. *g*. Chipped knife. $\frac{1}{2}$

bles a primitive chopping knife, has a greater portion of its surface polished, one edge being battered or rudely chipped. The object represented at *f* is probably a polishing stone of natural form, about seven-eighths of an inch in width with an average thickness of three-eighths of an inch. These two implements lay farthest to the south. The symmetrical knife *g* is of dark flint, and lay farthest north with its point inward.

Near the northeastern corner of Section G, at a depth of eighteen inches was unearthed a mass of ochre (Grave Q). No implements were found in this grave.

SECTION H.

Near the centre of this section and fifteen inches below the surface was a deposit of red ochre containing a pendant, a well-formed gouge and a small mass of yellow oxide of iron, the remains of a firestone (Grave F). A short distance to the west and thirteen inches deep in the gravel another deposit of ochre was encountered (Grave S), containing a well-preserved celt with a straight cutting edge. A pendant (No. 78) lay near the surface of the grave in ashes. The ochre in Grave T contained a crumbling fire-making set thirty inches below the surface.



FIG. 39. Chipped Arrowpoint, Grave H, Section H, Orland, Me. †

In the northeastern corner of this section was Grave H. The ochre which marked this burial was seventeen inches below the

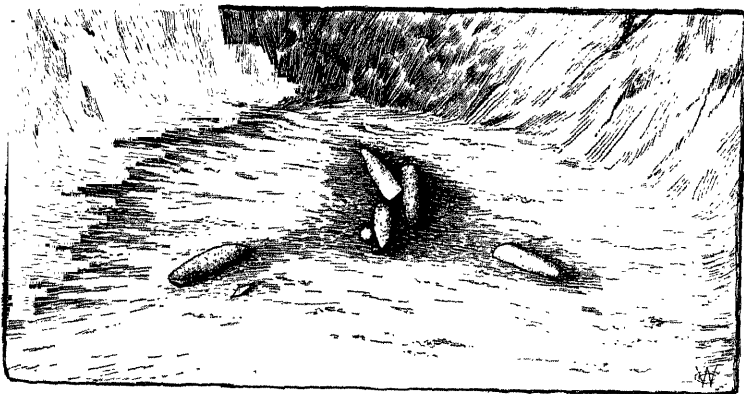


FIG. 40. Grave G, Section H, Orland, Me. (From Photograph.)

surface and of unusual brilliancy. The arrowpoint, Fig. 39, lay with its point near the centre of the mass of pigment. Two partially disintegrated firestones occupied a position just south of the arrowhead.

An interesting series of implements and the usual quantity of red ochre were obtained from Grave G. Fig. 40 shows seven of

these implements, just as they were uncovered. Four of them lay together, and are shown near the centre of the illustration. The upper one at the left is a thin celt or celt-like blade with a straight cutting edge. The upper portion of this implement was undoubtedly inserted in a socket. To the right, just below the edge of this tool, lay another celt with a slightly curved cutting edge. Below the former implement was a gouge upon its side, in contact with a crumbling firestone. A finely formed celt lay a short distance to the right with its cutting edge toward the main deposit. At the left another and thicker celt occupied a corresponding position. Its edge is slightly curved, the concave side being downward. By the side of this implement was the small arrowpoint of slate, illustrated in Fig. 41.



FIG. 41. Arrow-point of polished slate, Grave G, Section H, Orland, Me. $\frac{1}{2}$

After removing these implements, further excavations revealed the finely formed gouge and the pendant shown in Figs. 42 and 43. These were a few inches below the main deposit. The gouge lay with its grooved side downward. Its length is ten and one-half inches. Its width at the cutting edge is one and one-half inches, and it gradually tapers to seven-eighths of an inch at



FIG. 42. Gouge, Grave G, Section H, Orland, Me. $\frac{1}{2}$

the smaller end. Its greatest thickness is one and one-fourth inches. The pendant has the appearance of having been fashioned from a broken celt. The relative position of these implements is shown in the plan.

SECTION I.

But two graves were found in this section. Grave V contained red ochre, the remains of a firestone, a rude celt and a gouge made from a long, thin pebble, the only modification in the shape of the pebble being the grinding necessary to form the curved cutting edge of the tool.

Grave W contained red ochre twenty inches from the surface, a partially disintegrated firestone and a small mass of oxide of iron,

probably the remains of a second firestone. A small celt, No. 75, lay within the sod near the southeast corner of the section.

SECTION J.

The largest number of implements obtained from one deposit in this cemetery were found in Grave I, at a depth of twenty-one inches, lying in red ochre. These ten implements are shown in position in Fig. 44. A large stone had evidently been placed with the body in this grave. One of the tools, a rude celt or celt-like blade, lay with its edge against the stone. Two similar implements with slightly curved edges and a gouge having a narrow edge lay near together, a short distance from the stone, each with its inner or concave side uppermost. To the right, as shown in the illustration, a celt with curved cutting edge lay upon its side. To the left, in a corresponding position, was a similar implement with its edge near a

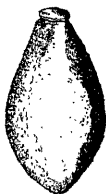


FIG. 43. Pendant, Grave G, Section H, Orland, Me. $\frac{1}{2}$



FIG. 44. Grave I, Section J, Orland, Me. (From Photograph.)

pair of firestones which are changed to limonite. A small fragment of matting, evidently woven of rushes, and a piece of what appears to be birch bark are preserved by contact with the iron.

A pendant, with its grooved end lying against the side of another celt, occupied an intermediate position, as shown in the illustration.

The outer limits of the three depressions along the summit of the knoll, which first drew my attention to this burial place, are



FIG. 45. Vertical cross section E', F', through Fire Hole 1, Orland, Me. A. Top soil. B. Charcoal and ashes. C. Disturbed gravel within fire hole. D. Discolored earth containing a little charcoal and red ochre. E. Undisturbed gravel.

shown by the circles in Plate IV. The depression of fire hole No. 1, of which but a portion is shown upon the plan, measured thirteen feet from edge to edge. Its depth was thirty-two inches. A vertical cross section E'-F', Fig. 45, shows it to have been originally

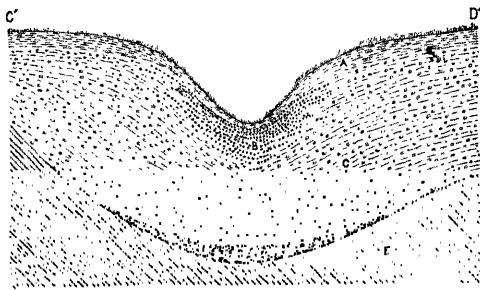


FIG. 46. Vertical cross section C', D', through Fire Hole 2, Orland, Me. A. Top soil. B. Charcoal and ashes. C. Disturbed gravel. D. Discolored earth containing a little charcoal and red ochre. E. Undisturbed gravel.

dug to a depth of fifty-eight inches. At the bottom of the hole as originally dug, lay a thin mass of discolored earth, a few bits of charcoal and a small quantity of red ochre. Charcoal and ashes occurred below the surface near the centre of the depression.

Fire hole No. 2 measured ten feet from edge to edge. The

depression was twenty-seven inches in depth, and the vertical cross section C'-D', Fig. 46, shows it to have been originally dug to a depth of sixty inches. A large mass of discolored earth, some charcoal, and a small quantity of red ochre lay at a depth of five feet. Charcoal and ashes were found below the surface near the centre of the pit.

Fire hole No. 3 was fourteen feet in diameter, with a central depression of twenty-eight inches. It had originally been dug to a depth of fifty-nine inches. A cross section, A'-B', Fig. 47, shows the same general conditions to be present as in Nos. 1 and 2. No ochre was found at the bottom of the original excavation. There were several graves within the limits of this fire hole, as will



FIG. 47. Vertical cross section A', B', through Fire Hole 3, Orland, Me. A. Top soil B. Charcoal and ashes. D. Discolored earth. E. Undisturbed gravel.

be seen by referring to the plan. These burials may have been subsequent to the digging of the hole; but, as the line of junction between the disturbed gravel within the fire hole and the undisturbed earth without could only be traced in a few places, it could not be ascertained whether the graves marked by the ochre and implements within the limits of the depression were a part of the great fire hole, or of earlier or later date. Is it not probable that these great depressions were communal graves similar to the one at Ellsworth (see Fig. 8), and that all traces of the bodies placed therein had disappeared?

Charcoal, ashes and discolored earth were found to a limited extent in the gravel throughout this burial place.

THE IMPLEMENTS FROM THE GRAVES.

In the following table, the broad classification of the more common implements taken from the three burial places shows the number of objects of the same type from each cemetery, and the relative numbers of the various forms from a given locality. Only the implements taken by the author from the graves are recorded.

| | | ELLIS- WORTH. | BUCKS. PORT. | ORLAND, TOTAL. | |
|--|---------------|------------------|-----------------|-------------------|-----|
| Arrowpoints | Chipped..... | | 1 | 1 | 2 |
| | Polished..... | | 3 | 1 | 4 |
| Spearpoints Polished.. .. . | | 1 | | 1 | 2 |
| Chipped Knives..... | | 2 | 8 | 3 | 13 |
| Celt-like Blades, with straight, or nearly straight, cutting edges, the smaller ends apparently fashioned for insertion in sockets of wood or antler. Type, Fig. 48..... | | 3 | 7 | 11 | 21 |
| Celts, or Celt-like Blades of symmetrical form with curved cutting edges, probably once lashed to handles and not inserted in sockets. Type, Fig. 49..... | | | 12 | 11 | 23 |
| Grooved Gouges of the same general outline as the celts with curved edges, and probably attached to hafts in a similar manner. Type, Fig. 50..... | | | 12 | 17 | 29 |
| Pear-shaped Pendants..... | | 10 | 21 | 10 | 41 |
| Firestones, originally nodules of iron pyrites. These are in various stages of decomposition..... | | 4 | 7 | 14 | 25 |
| Hammerstones, which accompanied nodules of iron pyrites..... | | 1 | 3 | 1 | 5 |
| Pebbles of natural, or but slightly modified forms, used as polishing stones, paint pestles and for other purposes..... | | 1 | 4 | 8 | 13 |
| Totals..... | | 22 | 78 | 78 | 178 |

The great majority of these objects were evidently for use in the ordinary domestic affairs of every-day life. The comparative rarity of weapons or parts of weapons is noticeable. Only the arrowpoints and polished spearpoints can with any degree of certainty be so classed.

ARROWPOINTS.

The majority of the arrowpoints are of polished slate. These are illustrated in Figs. 20 *h*, *i*, 25 and 41. The two chipped specimens are shown in Figs. 21 and 39.

SPEARPOINTS.

The only specimen found *in situ* which can without doubt be classed as a spearpoint is shown in Fig. 13. Its position in the grave was such as to indicate its attachment to a long wooden shaft (see Fig. 12). Fig. 31 seems large for an arrowpoint and in the table is classed as a spearpoint.

The spearpoints illustrated in Fig. 16 were taken from graves previous to the explorations conducted by the author.

CHIPPED KNIVES.

Several of the knives of the type illustrated in Figs. 4, 14 *g*, 17, 18 *c*, *d*, *e*, 24 *c*, 36 and 38 *g*, are worn and polished by long use. The majority are chipped from felsite. A few are of flint or slate. The position in which some of the specimens were found renders their employment as projectile points improbable, while their worn surfaces indicate their use as cutting and scraping implements. The not uncommon occurrence of chipped knives of this form, hafted in short wooden handles, from the cliff dwellings of the southwest and from burial places in various parts of America, indicates an almost universal use of knives of this type by the prehistoric peoples of this continent. It is not inferred that similar objects were not also used as projectile points, for it is well known that spears with chipped stone heads have been in use among primitive tribes within historic times.

CELT-LIKE BLADES WITH CUTTING EDGES STRAIGHT OR NEARLY SO.

These implements, which are from three inches to nine and one-half inches in length, have straight or slightly curved cutting edges. The upper portion of the tool usually tapers to a blunt point and is frequently rudely finished. They were doubtless inserted in sockets of wood or antler or lashed to handles after the manner of the adze blades and "skin scrapers" in common use among

the Eskimo and other primitive peoples, and to which they bear a close resemblance. Type specimen Fig. 48. Other examples are illustrated in Figs. 14 *a, b, c*; 20 *b*; 27 *c*.

Although of the same general form, I have not included in this type the perforated implement shown in Fig. 18 *b*. Unlike the majority of blades this tool is polished over its entire surface. The perforation is evidently for the purpose of attaching a cord, and the implement may have been used without a haft.

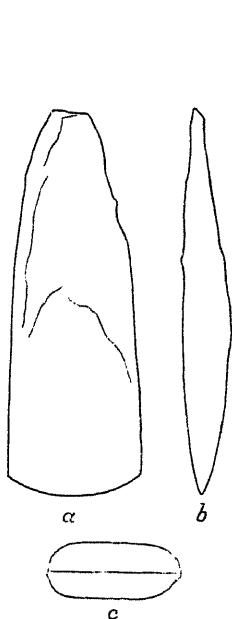


FIG. 48. Celt-like blade. Type specimen, *a*. Front view. *b*. Side view. *c*. End view showing straight cutting edge. $\frac{1}{2}$

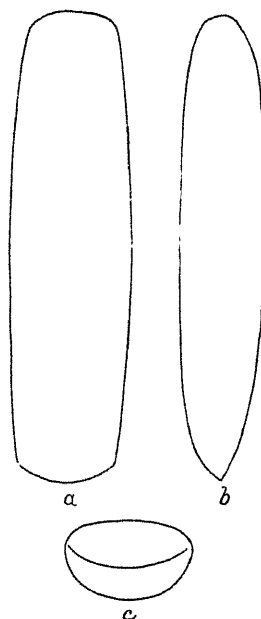


FIG. 49. Celt, Type specimen. *a*. Front view. *b*. Side view. *c*. End view showing curved cutting edge. $\frac{1}{2}$

CELTS OR CELT-LIKE BLADES WITH CUTTING EDGES CURVED.

These implements are of symmetrical form with well finished surfaces and curved cutting edges. They are of the same general form as the gouges, the principal difference being the absence of the groove. They vary in length from four inches to eight inches and were probably lashed to hafts and not inserted in sockets. Type specimen Fig. 49. Numerous other examples of this form

together with the following types are represented in the foregoing drawings.

GROOVED GOUGES.

The so-called gouges vary from two and three-eighths inches to ten inches in length, with cutting edges from one-half inch to two and one-half inches in width. They are of symmetrical form and are carefully finished. A few of the specimens are polished over a greater portion of their surface, but the majority are polished only for a short distance above the edge upon either side. Type specimen Fig. 50. While it is possible that these implements were used without hafts, it seems more probable that they were lashed to handles and used after the manner of adzes and skin scrapers. The smaller specimens, one of which is represented at the right in Fig. 32, would be of little use without a handle. Gouges and celts are frequently found in New England, having either ridges or a groove upon the back or convex side evidently for the purpose of holding the lashings in place.

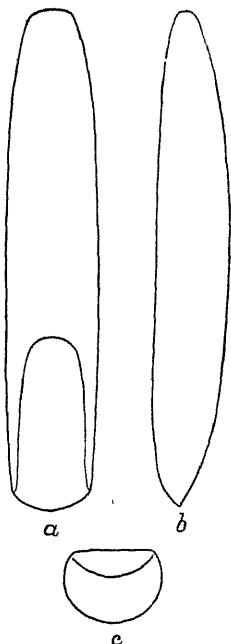


FIG. 50. Gouge. Type specimen. *a*. Front view showing groove. *b*. Side view. *c*. End view showing curved cutting edge. $\frac{1}{2}$

PEAR-SHAPED PENDANTS.

Many of these puzzling objects were taken from the graves. In several instances a pendant was, with the exception of the red ochre, the only imperishable object deposited with the dead. Other graves contained two, three and sometimes four or more (see Plate II, also Figs. 14 *d, e, f*; 20 *d, e, f, g*; 27 *d, e*, 29 and other illustrations). Their positions in the graves can be studied by referring to the Plates. These pendants occurred outside the deposits of ochre more commonly than the other objects and frequently at varying depths in the same grave. This was particularly noticeable at Bucksport. The various theories regarding the probable use of these objects need not be commented upon here. Much has been written upon the subject. The theory generally accepted is that they were used

as charm stones. Similar pendants are said to be still employed as charms by the modern California Indians. The advocates of this theory forget that ancient stone implements in possession of Indians supplied with tools and utensils of European manufacture are commonly regarded as sacred objects. As an illustration of this it is only necessary to call attention to the fact that many of the grooved stone axes and mauls in use up to 1870 by the Pueblo Indians are now considered sacred, and are deposited upon the altars in sacred ceremonies. Whatever may have been the use of these pendants it is certain that they occupied a prominent place among the implements and utensils used in the practical every-day life of the Indians.

FIRESTONES.

Nodules of iron pyrites of different degrees of purity which have mostly changed to limonite or powdered oxide of iron. These objects were once used in pairs or with hammerstones of felsite for kindling fires.

The collection comprises a fine series of these ancient fire producers in various stages of decomposition. The best preserved examples are illustrated in Fig. 18 *f*, and in the lower right hand corners of Figs. 19 and 26. The two latter specimens are shown with the felsite hammerstones found with them. In a few graves the hammerstone was accompanied by a small quantity of yellow oxide of iron in powder, the remains of a lump of iron pyrites which have become wholly disintegrated.

Other graves contained one or two nodules of what had been impure iron pyrites. The bisulphurate of iron having decomposed the impurities remained in the form of a cinder-like crust.

A few of these implements were originally of quartz or other varieties of stone containing the pyrites in disseminated crystals, which have disappeared with the exception of small quantities of yellow powder, leaving variously shaped cavities in the nodule. See Fig. 26, lower right hand drawing.

Occasionally nothing remained of either nodule except slight traces of the yellow oxide. Several single crumbling nodules were taken from the graves, but it is probable that each of these was originally accompanied by a nearly pure lump of pyrites all traces of which had disappeared.

From the accounts of various methods of primitive fire-making among historic tribes of America, we learn that fire-making sets

consisting of nodules of iron pyrites, or pyrites and flint were used by the Eskimo and the northern ranging tribes of the Athapascan stock, some of the Algonquins and the Beothuks of Newfoundland.

Among the Eskimo the use of pyrites as a means of fire-making ranged "from north of Dixon's Sound to Labrador, the following localities being represented, viz.: Stikine River, Sitka, Aleutian Islands, Kotzebue Sound, Point Barrow, the Mackenzie River district, at Fort Simpson, and probably Hershel Island, Pelly Bay, Melville Peninsula, Smith Sound, and Labrador."¹

Mr. Lucien M. Turner in a manuscript account of the Aleutian Islanders says:

"They use the four part drill but they also use pyrites. A stone containing quartz and pyrites is struck against another similar one, or a beach pebble, into a mass of sea bird down sprinkled with powdered sulphur."²

In his account of the Point Barrow Eskimo, Murdoch informs us that "they used to get 'great fire' by striking together two pieces of iron pyrites. Dr. Simpson speaks of two lumps of iron pyrites being used for striking fire, but he does not make it clear whether he saw this at Point Barrow or only at Kotzebue Sound. Iron pyrites appears to have been used quite generally among the Eskimo. Bessels saw it used with quartz at Smith Sound, with willow catkins for tinder and Lyon mentions the use of two pieces of the same material with the same kind of tinder, at Igloodik."³

Dr. Franz Boas, writing of the Central Eskimo, tells us that "wherever flint and pyrite are to be had these are used for striking fire."⁴

The Eskimo of Melville Peninsula, according to Parry, "use two lumps of common pyrites, from which sparks are struck into a little leathern case . . . containing moss well dried and rubbed between the hands. If this tinder does not readily catch, a small quantity of the white floss of the seed of the ground willow is laid above the moss. As soon as a spark has caught it is gently blown till the fire has spread an inch around, when the pointed end of a

¹ Hough. Fire-making Apparatus in the U. S. National Museum. Smithsonian Report, U. S. N. Museum, 1888, p. 572.

² Quoted by Hough. *Ibid.* p. 576.

³ Murdoch. The Point Barrow Eskimo. Ninth Annual Report Bureau of Ethnology, p. 291.

⁴ Boas. The Central Eskimo. Sixth Annual Report Bureau of Ethnology, p. 526.

piece of wick being applied, it soon bursts into a flame, the whole process having occupied perhaps two or three minutes."¹

"The Canadian and Algonquins strike two pieces of pyrites (*pierres de mine*) together over an eagle's thigh, dried with its down, and serving instead of tinder."²

Roger Williams tells us in his account of the construction of a wooden canoe or dug-out that he has "seene a Native goe into the woods with his hatchet carrying onely a Basket of Corne with him, and stones to strike fire when he had felled his tree."³

The extinct Beothuks of Newfoundland also used pyrites for fire-making.⁴

A comparison of the stones used for fire-making by historic tribes, as above quoted, with those taken from the graves shows the same variations as to material, viz.: pyrites and a flint hammerstone, nodules of pyritiferous quartz, or nodules of pyrites.

PEBBLES.

Probably used as polishing stones, paint pestles and for other purposes. These together with the few objects of uncommon form are described in the foregoing pages.

RED OCHRE.

The use of this pigment seems to have been universal among the Indians whose remains are found in these cemeteries. It varies in color from pink to deep red. In some of the graves only a small quantity had been deposited which the percolating water had mixed with the surrounding sand and gravel. In other graves a quart or more of pure dark red ochre was found with various implements lying upon it or buried within it. Plate II is a photographic illustration of a grave containing a large mass of the ochre and a pearshaped pendant. I know of no beds of this pigment in eastern New England, although they may occur in the iron region of central Maine. The ochre may have been brought from the British Provinces. The Beothuks of Newfoundland obtained much of their red paint from Red Ochre Island, Conception Bay. The eastern British Provinces, including Newfoundland, contain large

¹ Parry. Second Voyage, London, 1824, p. 504.

² Hough. Fire-making Apparatus in the U. S. National Museum. Smithsonian Report, U. S. N. Museum, 1888, p. 572 (Laftau. Moeurs des Sauvages Ameriquains).

³ Roger Williams. A Key into the Language of America, London, 1643.

⁴ Journal, Anthropol. Inst. Great Britain and Ireland, v. 5, p. 225.

deposits of iron and beds of ochre of various shades, and it would not be surprising if in that region there were many localities where red ochre was mined in prehistoric times.

ESKIMO, ALGONQUIN OR BEOTHUKS.

The great age of the sixty or more graves described in the foregoing pages is evident. The complete decay and disappearance of the skeletons (with the exception of the fragments shown in Fig. 11 and small quantities of bone dust in a few graves), the disintegration of the firestones of pyrites, and the decomposition which many of the implements have undergone when buried many inches beneath the surface, prove the burials to be among the oldest yet discovered upon this continent.

If the generally accepted theory of the comparatively recent eastward migration of the Algonquin tribes which inhabited New England at the advent of Europeans be correct, the burials in these old cemeteries cannot be attributed to that people.

The archaeological evidences of the occupation of New England by the Algonquins have, however, been but superficially examined. Most of the shell heaps are apparently of Algonquin origin. Those examined by the author cannot with our present knowledge be attributed to any other people. Even the great oyster shell heaps of Damariscotta contain implements of stone and bone and fragments of pottery of types in common use among the Algonquins when first known to Europeans. When the vast quantity of material collected by Professor Putnam from these heaps and from many others on the New England coast has been systematically studied it will doubtless throw much light upon the tide-water people or peoples of Maine.

The few graves containing skeletons which have been discovered along the New England coast are doubtless those of Algonquins. The pipes, pottery, beads and implements found therein are of types common among this people within historic times. The theory that the Skraelings of the Norsemen were New England Eskimo has as yet no archaeological confirmation. It is true that many bone arrow, spear, and harpoon points from the shell heaps are very similar to those used by the Eskimo, but we learn from Rosier's Narrative of Waymouth's Voyage to the Coast of Maine in 1605, that the Indians near Monhegan had [arrows]

"Big and long with three feathers tied on, and nocked very artificially, headed with the long shank bone of a deer made very sharp with two fangs in the manner of a harping iron. They had likewise darts headed with like bone, one of which I darted among the rocks and it brake not."

John Josselyn in his *Account of Two Voyages to New England* informs us that the Indians from their canoes strike the fish with

"A kind of dart or staff, to the lower end whereof they fasten a sharp jagged bone . . . with a string fastened to it, as soon as the fish is struck they pull away the staff, leaving the bony head in the fishes body and fasten the other end of the string to the Canow: Thus they will hale after them to shore half a dozen or half a score great fishes."

The polished slate implements of New England are similar to those of the Eskimo. They are also characteristic of the people whose graves are described in this paper and these are certainly not Eskimo graves if judged by the method of burial known to be Eskimo. The people whose remains are found in these cemeteries were evidently not makers of pottery. No potsherds were encountered within the graves or upon the surface of the burial places. Pestles, grooved axes, pipes, perforated gorgets and the so-called ceremonial implements, so common among the Algonquins, were also wanting.

The following brief extracts from the valuable papers of Mr. T. G. B. Lloyd upon the now extinct Beothuks² may throw some light upon the possible origin of these burial places. It is not improbable that the majority of the grooved gouges and polished slate implements found throughout New England and the British provinces were left by this people before being driven eastward by the invading tribes from the west.

When Cartier and other early explorers visited eastern America they found people inhabiting the island of Newfoundland who were known as the Beothuks or Red Indians.

"The epithet 'Red Indian' is given to the savages of Newfoundland from their universal custom of colouring their garments, canoes, bows and arrows, and every other utensil belonging to them, with red ochre, obtained by them from Red Ochre Island, Conception Bay."³

"They have great store of red ochre, which they use to colour their bodies, bows and arrows, and canoes."⁴

¹ Rosier's Narrative of Waymouth's Voyage to the Coast of Maine in 1605. Eastern Times Reprint, Bath, Me., 1860, p. 25.

² These Indians are supposed to have become extinct early in the present century.

³ T. G. B. Lloyd, *The Beothuks*. Journal of the Anthropological Institute of Great Britain and Ireland. Vol. IV, No. 1, p. 23.

⁴ Purchase. Quoted by Lloyd. *Ibid.* p. 22.

From the accounts of the different modes of burial in practice among the Beothuks I quote the following :

"The most common method of interment was that of placing the body in a wrapping of birch bark and covering it well with a pile of stones, if such it can be called. But sometimes it was put a foot or more under the surface of the ground before the stones were placed on it, and in one place, where the ground was sandy and soft, the graves were deeper, and on them no stones were placed."

"Further information regarding the Red Indian, in the Museum at St. John's, Newfoundland.—Mr. Alexander Murray, in answer to my queries, says, in a letter, dated March 19th, 1875: 'I have made a discovery' regarding the Red Indian skull I have. It appears that Dr. Winter, of this place, took it and a thigh bone from the skeleton, which was found on the straight shore opposite the Indian Islands, in Sir Charles Hamilton's Sound. The skeleton, according to Dr. Winter, had been wrapped in birch bark, and buried in a sitting posture, and had various stone implements entombed, together with large crystals of iron pyrites to strike fire with when he woke up again. Dr. Winter further states, that the remains bore evidences of having been shot, some large seal- or swan-shot being found sticking in the bones, some of which and the skull were fractured."

"During my first visit to Mr. John Peyton, in reply to the question, 'How did the Beothucs obtain fire?' he replied, that they ignited the down of the blue jay by sparks struck from two pieces of iron pyrites."

"It appears that the Beothucs did not make any kind of pottery."

Maj. J. W. Powell, writing of the language of this little-known people, says :

"Neither in amount nor quality is the material sufficient to permit final and satisfactory deductions, yet so far as it goes it shows that the language is quite distinct from any of the Algonquian dialects, and in fact from any other American tongue."

I am aware that these quotations have but an indirect bearing upon the question of the origin of these graves, still they may serve as suggestions for future investigations.

¹ *Ibid.* p. 32.

² T. G. B. Lloyd. On the Beothucs of Newfoundland. Journal of the Anthropological Institute Great Britain and Ireland, Vol. V, No. II, pp. 226-227.

³ *Ibid.* p. 225.

⁴ *Ibid.* p. 229.

⁵ J. W. Powell. Indian Linguistic Families. Annual Report of the Bureau of Ethnology. Vol. VII, pp. 57, 58.

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A PENITENTIAL RITE

OF THE

ANCIENT MEXICANS

BY

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WITH 5 PLATES AND 8 TEXT ILLUSTRATIONS

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PENITENTIAL RITE OF THE ANCIENT MEXICANS.

WHATEVER views may be held concerning the religion of the Ancient Mexicans; whether we adopt the ideas promulgated by the Berlin school of Mexican mythology, which speaks of a Mexican "pantheon," and crowds its labyrinthian passages with innumerable "gods" and "goddesses;" or whether, as many analogies indicate, the Ancient Mexican sociological and religious system was a development on the same lines of thought which produced that of the Zuñi and Pawnee people of today, there is one point on which all must agree, namely, that the Ancient Mexicans practised their religion with a zeal and devotion worthy of a better cause.

It was not only the priesthood which subjected itself to a stern discipline which enforced prolonged fasts and excruciating self-torture, but the painful rite of drawing blood from one's body and offering it to the deity, commonly practised by all persons, young and old, was a feature of everyday life. Some time ago, whilst making a special study of the rituals of the Ancient Mexicans, I collected and translated, from the works of various writers, a number of passages relating to the native rite of drawing blood from the ear, the tongue, and other parts of the body. The fact that, in passages describing the rite of blood-sacrifice, the piercing or cutting of the helix of the ear is usually mentioned first, tends to show that a particular sanctity or significance was associated with this particular organ. The precedence accorded to this rite, which must not be confounded with the ceremonial of piercing the lobe of the ear for the purpose of wearing ear-ornaments, is particularly interesting in connection with Miss Alice Fletcher's recognition of the importance attached to the ceremonial piercing of the ear amongst the tribes of the Siouan group.

It has seemed to me that the most satisfactory method of presenting the material which I have collected from the writings of Friars Sahagun, Motolinia, Duran, Mendieta, the Chronicles of Tezozomoc and other authorities, would be to present literal translations of such passages as best preserve details and local coloring.

In honor of the Lord of the Night, this being one of the



FIG. 1.

many titles bestowed upon Tezcatlipoca, the Lord of the North, of the Underworld, etc., a festival was held once or twice a year on the day Nahui Ollin. According to Sahagun the priests fasted during the four days preceding this festival and, at noon, blew conch-shells, flutes, and whistles, and then passed slender twigs or sticks through their tongues. An interesting bas-relief preserved at Jalapa (Fig. 1) illustrates

this painful rite, the most graphic description of which is given by Friar Mendieta in his *Historia Ecclesiastica Indiana* (chap. xvii): "At Tlaxcalla . . . the priests . . . performed an unheard of and horrible self-sacrifice . . . the servitors of the temple brought together a great quantity of sticks, as long as an arm and as thick as a wrist. These had been manufactured by a number of carpenters who had prepared themselves for doing so by fasting and praying during five days. The master stone workers, after praying and fasting, also made many black obsidian knives which were to be used in perforating the tongues of the priests and which, after having been sanctified, were laid on a clean cloth."

"They first performed a dance with songs and beating of drums. Then a master who was an expert in this office came with the obsidian knife, and made a large opening in the tongue of each of the principal priests . . . The Achcauhtli, or high priest then drew through his tongue, on that day, four hundred of those sticks. Other old, practised and strong-minded priests, imitating his example, also drew the same number of sticks through their tongues. The less aged priests used three hundred sticks, some of which were either as thick as a thumb, as a great toe or as the index and middle finger together. Younger priests did not employ more than two hundred sticks, but all according to their strength and valor, performed this rite, at the termination of which their aged leader intoned a chant, although he could hardly raise his voice on account of his lacerated tongue. All made efforts, however, to sing and offer sacrifices and then those of the temple began an eighty day fast during which, at intervals of twenty days, they drew the sticks through their tongues four times . . ."

In chapter xviii Mendieta specially describes the ear sacrifice performed by the priests who fasted during periods of four years and who, at intervals of twenty days, passed through the holes, cut in their ears, sixty pieces of cane, as long as an arm, some thick and some thin. "These blood-stained offerings were placed in a heap, in front of the idols and were burnt at the end of the four years . . ." Friar Sahagun relates that, every day of the year, the priests offered blood from their ears

to the sun at sunrise and also at noon, on the day *Nahui Ollin*, when all persons, old and young, also drew blood from their ears in strictly observed silence and in front of the sculptured and painted image of the Sun which was in the temple named *Quauhxicalco*. This image, the Friar adds, represented the sun as a human face encircled with rays. The partly unpublished MS. of Sahagun's work, preserved in Florence, contains an interesting illustration to this passage, in which the image of the sun is held by a man whose body is partly hidden, and two men, seated opposite to each other in the foreground, are in the act of piercing the helices or external borders of their ears (Fig. 2). On the same day and at the same hour, blood was

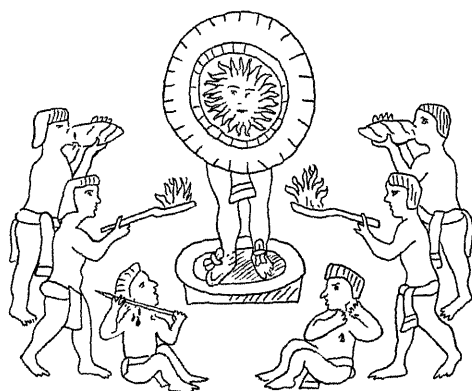


FIG. 2.

also drawn from the ears of "babes in their cradles," who were thus made to participate in the general blood-offering. All adults made offering of their blood during five days preceding the fixed festivals held at intervals of twenty days. The men made incisions in their ears and painted lines on their faces with the blood thus obtained. The lines they drew were straight and extended from the eyebrow to the jaw-bone. The women drew circles on their faces and, as an act of special devotion, sometimes offered blood in this way during a consecutive period of eighty days, cutting themselves at intervals of three or four days. This ceremony was named *Nenacaztequiliztli* (lit. the ear-cutting).

Another rite, named *Tlazealtiliztli*, was performed, as an

act of homage to the sun or to the element fire, whenever any one finished building a new house, or when the sign of the sun reigned in the native Calendar.

This rite consisted in drawing a drop of blood from the ear and catching it on the nail of the first finger and flinging it towards the sun or into the fire.

Sahagun distinctly states that this rite was the same as that named *Acxoiatemaliztli* which he describes as follows: "As an act of devotion some offer their blood in the temples during the vigils of the festivals. In order to make their offering more acceptable they first went and gathered branches of the wild laurel named *Acxoiatl* which grows in great quantities in their woods, and brought them to the *calpulcos* or houses of communal government, situated in their respective quarters



FIG. 3.

of the city. There they took two of the sharp points of the agave leaf and drew blood from their shins, then carried these blood-stained points to the temple where they offered them to the god to whom they rendered devotion on a sort of circular cushion or mat made of the young branches of the wild laurel." Sahagun's association of this ceremony with the drawing of blood from the ear, is corroborated by an illustration contained in the Anon. Hispano-Mexican MS. preserved in the National Library at Florence entitled "The Book of the Life of the Ancient Mexicans" (Fig. 3).

This represents a step-pyramid surmounted by an image of the "Lord of the North or of the Underworld," and the per-

formance of what the text designates as "a penitential rite" in his honor.

The penitents who are respectively piercing tongue and ear, also exhibit bleeding wounds in other parts of their bodies. At the base of the pyramid, on a mat of leaves presumably of the wild laurel, lies the ball of woven grass, which Sahagun names the "*çacatapayolli*," in which two agave points are sticking.

The above illustration accords with Friar Duran's statement (*Historia*, vol. II, p. 195) that, at a certain festival, "all priests and dignitaries took small obsidian sacrificial lancets and made incisions in their tongues, ears, breasts, arms, and legs. Some penitents pierced the ears and pushed many reeds through the opening — others perforated their tongues and drew a number of straws through them . . ." The above references to the rite as being penitential are corroborated by Duran's distinct statement that, "according to the number of grave offences committed by a penitent, he or she took a number of straws, of the kind used for making brooms, each one a handbreadth in length. With these he went to the temple, perforated his tongue with a lancet and passed the straws through it, and then threw these in front of the idol . . . Later on, the priests gathered up all these blood-stained straws and burnt them in what was called the 'divine brazier,' after which the penitents were declared free of their offences."

The same author describes (vol. II, p. 244) as follows, the penitential rites performed by the priesthood during the festival *Etzqualiztli*:—"The priests fasted for four days, and each night, after midnight, went to where the agave points were kept which had been cut on the previous day and had been brought sticking into pieces of the fleshy agave leaf. They then cut their ears with small obsidian knives and stained their faces and the agave points with blood. According to the devotion of each priest the number of the agave points he stained with his blood was five or more or less." Elsewhere it is stated that each priest carried with him a piece of the fleshy part of the agave leaf, into which he stuck the thorns used in performing the penance. The duty of collecting and preparing the agave leaf points used in the performance of penitential rites devolved upon the larger boys who were being educated, by the priesthood, in the *Calmecac*. According to the *Codex Ramirez*

(Ed. José Vijil, p. 113): "after the performance of certain rites, the priests went, at midnight, into a wide room in which there were many seats" — a fact to which I will revert further on. "The priests, being seated, took either an agave point or an obsidian lancet and pricked or cut their ankles. They then smeared their blood on their temples as well as on the agave points or lancets and stuck these into the prepared grass balls, which were afterwards usually placed between the turrets on the wall enclosing the courtyard. These balls were allowed to remain there so that all should see that the penitential rite had been duly performed by the priests on behalf of the people."

"In the great temple there was always a large number of these lancets and agave points because those stuck in the grass balls were constantly being removed and replaced by others. They were never used twice and were preserved with great reverence, in memory of the blood offering made to their god." The foregoing mention that the thorns were reverently preserved is of special importance and is further corroborated by Friar Sahagun's statement that Vitztepeocalco, the name of the 23rd edifice of the great temple, signified literally: the place wherein the thorns or agave points are thrown. This structure is, moreover, described as "a square, surrounded by a low wall, into which the priests cast the agave points with which they had performed penance. Pieces of green reeds or cane, stained with blood, were also thrown there, as an offering to the gods."

A perusal of the following detached quotations teaches further that, in Ancient Mexico, according to circumstances, the performance of the rite of blood sacrifice, constituted an act of humility, of thanksgiving, of penitence, or of propitiation. A passage in the Chronicle of Tezozomoc (p. 639) relates how certain representatives of a conquered tribe, on reaching the Mexican capital, first went to the temple of Huitzilopochtli where, "as a sign of true humility and abasement, they pierced their ears, arms, the calves of their legs with agave points and then betook themselves to the house of Montezuma." Duran records (vol. I, p. 424) that on a certain occasion, the Mexican ruler "bled his ears and limbs as an action of thanksgiving" and it was possibly as such that the rite was solemnly performed by the newly elected rulers of Mexico during the elabo-

rate ceremonies which accompanied their inauguration. The following curious details are preserved in Duran's account of the preparation made for the ceremonies of Montezuma's inauguration. "On the floor of the temple, near the brazier, were laid the royal robes and diadem, an incense-burner and three sharp-pointed bones . . . After his investment with the royal insignia Montezuma burned incense in honor of the god of fire and then pierced his ears with the sharp-pointed ocelot or tiger bone, incised the fleshy part of his arm with the puma's bone, and his shins with the eagle's bone." Later, in the great temple, on the "Stone of the Eagles," he again drew blood from the same parts of his body, with the same bone instruments, observing the same order. In the discourse addressed to him on this occasion by the ruler of Tezcoaco, Montezuma is exhorted to attend to his new duties, one of which was the observation of the stars, another that of sacrificing his blood and offering it to the gods on behalf of the people. Montezuma's use of an ocelot bone for piercing his ears is corroborated by Tezozomoc who repeatedly alludes (pp. 573, 577, 587) to the thin, sharp instruments made of ocelot or puma bones, which were used by the same ruler for bleeding his ears and limbs. In describing the inaugural festivities of Tizoc, Duran states that the sharp ocelot bone instrument used by the ruler was "garnished with gold" (vol. II, p. 310). Finally the same author relates of Ahuitzotl that:—"after sacrificing quails before the idol of Huitzilopochtli, he asked for the bone of an ocelot. An extremely pointed and sharp one having been handed him, he perforated the helix of his ears, . . . his arms and legs . . . (vol. II, p. 376). On another occasion, however, when Ahuitzotl entered the temple at Chalco in which the idol of Tezcatlipoca was a special object of worship, he "sacrificed a number of quail and then, asking for an eagle's bone, bled his ears, arms, and shins . . ." (vol. I, Duran, p. 378).

The following passage demonstrates that the performance of the rite was supposed to insure success in the hunt. "On the seventh day of the hunters' festival, Quecholli, there was a great gathering in the courtyard of the temple of Huitzilopochtli. A large number of arrows were ceremonially manufactured and all participants" cut and bled their ears. If any

one omitted this rite he was fined by the men named Tepanmani who took his mantle from him and never returned it. All of the youths assembled were sent up to the temple of Huitzilopochtli where they were obliged to cut their ears and anoint their faces and brows with their blood. "This rite was called momaçaçio (lit., the deer sacrifice), because it was performed with reference to the deer the youths were going to hunt." (Sahagun, book 1, chap. xxxiii).

During the fifteenth festival period named Panquetzaliztli, the following rite was performed "by those women who were going to sacrifice slaves. They went to bathe in the stream which flowed past their dwellings, each woman carrying four agave points. Before bathing they cut their ears and after smearing blood on the agave points they cast one of them into the water; they stuck one in the bank of the river, and offered the remaining ones to the idol in the adjacent oratory. . . "

Sahagun relates that when the youths who were being educated in the Calmecac, wish to perform voluntary penance, they "set out alone and walked towards the hills, woods and rivers. Each one carried pine torches, a bagful of copal gum, an incense burner, a conchshell trumpet, and agave points. When he reached his destination he bled himself with the latter and inserted them into the grass ball, and then returned homeward, alone, blowing his conchshell." It is also recorded that the priests of the Calmecac used the agave points in inflicting such minor punishments upon their pupils as pricking their ears or bodies, or beating them with nettles. In the description of a certain festival it is recorded that the priest used a flint knife to cut the ears of the youths who displayed a lack of self-control and succumbed to fatigue on reaching the summit of the temple after a certain race. The same priests are said to have tortured their prisoners by "piercing their ears, arms, and legs with agave points, making them cry out in pain."

The following passage affords a somewhat more pleasing glimpse into the life of Ancient Mexico:

"Every fourth year, in the last day of the eighteenth festival period named Izcalli, the ears of all children born during the preceding three years were bled. This rite was performed by means of a sharp bone instrument and the wound was sub-

sequently dressed with parrots' down and pine-pitch." The children's parents appointed so-called "aunts and uncles" to act as "sponsors" during the operation, after which they made offerings of a paste made of the seeds of a kind of *salvia*, named *Chian*. In recognition of their services the parents presented an "uncle" with a red or fallow *Tilmatl* or mantle and an "aunt" with a *Huipil* or sleeveless upper garment. The friar records that, while their ears were being pierced, the children made a great outcry, and that, immediately afterwards, their sponsors led them to a bonfire prepared for the purpose around which they were made to walk. They were then taken to their respective homes, where their sponsors feasted with them and all danced and sang together. At noon all returned to the temple with jars of *pulque*, the native agave-wine, and there performed a dance the sponsors carrying their respective charges on their backs. Then each child was given some *pulque* in a tiny bowl, for which reason the festival was also known as "the intoxication of the children."

In the description of the same quadriennial festival in Serna's "Manual de los Ministros," chap XI, it is stated that besides piercing the ears of the girls and boys, the high priest perforated the lower lip of the boys so that they could subsequently wear labrets.

Sahagun alludes to the latter custom in the appendix to book II of his *Historia* where he states that it was "in honor of the devil, that the natives pierced their ears and wore earrings and pierced their lower lip and wore labrets;" operations which were respectively designated by the Nahuatl words: *Nenacaxxapotlaliztli* (lit., the ear perforating) and *Netenxapotlaliztli* (the lip perforating).

While it is thus evident that the ceremonial piercing of the ears and of the lips was associated with religious or superstitious ideas, it is evident that, in the case of the little children, all was done in order to palliate the pain inflicted and to make the occasion one of festivity and rejoicing.

We are indebted to Serna for the record of the peculiar circumstance that during the joint festival of *Chicome Xochitl*=Seven Flower, the patron of the painters, weavers and embroiderers, and of *Xochiquetzal*, the inventress of weaving, the

principal offering made by their devotees was blood drawn from the fingers or eyelids.

During the third movable festival all married people made offerings of blood drawn from the left breast or from their eyelids, the blood being caught on strips of paper which were then thrown into earthen jars and burnt in front of certain idols.

In the "Book of the life of the Ancient Mexicans", published by the University of California, and elsewhere, it is recorded that men, desiring offspring, offered blood drawn from their organs of generation.

During the sixth movable festival those who rendered homage to the god Quetzalcoatl sent to the temple what are described by Serna as "small salt-cellars" containing eight to ten drops or more of their own blood, absorbed by means of strips of paper which were subsequently burnt, with copal gum, on the altars of the temple. The allusion to tiny earthen vessels in connection with similar blood-offerings naturally suggests an explanation for the purpose of the small terra-cotta dishes and particularly of the enigmatical receptacles with two deep holes which are found at Teotihuacan in great numbers.

The question as to the origin of the peculiar sanguinary rites of the Ancient Mexicans is next to be considered. According to Friar Duran, the custom of piercing the flesh with agave points was first taught to the priesthood by "Quetzalcoatl of Tula" (vol. II, p. 244) and his testimony agrees with that of the commentator of the Codex Telleriano Remensis. Other evidence tends to prove, however, that the origin of the rite was assigned by the Ancient Mexicans to remotest antiquity and to the gods themselves. In the creation-myth as recorded in chap. VII of the Codex Fuenleal,* the gods Quetzalcoatl and Tlalocantecuhli "fasted and drew blood from their ears" before creating the sun and the moon. In chap. VIII it is related that later on, at a certain date, the god Camasale (Camaxtli) also named Mixcoatl, "performed penance with agave leaf points, drawing blood from his tongue and ears, and for this reason it is customary to draw blood from the same whenever one made any petition to the gods."

*The Codex Fuenleal or "Historia de los Mexicanos por sus pinturas," published in Vol. II of the *Anales del Museo Nacional*, 1882.

Sahagun's version of the creation of the sun and moon (book VII, chap. II) differs from the foregoing and relates that it was Nanaoatzin who, "after offering agave points stained with his blood and stuck into grass balls," voluntarily cast himself into the fire and became the sun; while Tecuciztecatl, following his example became the moon.

From Bishop Diego de Landa, who devotes a whole chapter to the "Cruel and obscene rites of the Yucatecs," we learn that similar forms of self-torture were practised in Yucatan. The ear-sacrifice is described as follows: "They sometimes made an offering of their own blood by making incisions all around the external border of their ears, leaving the lacerations as records of their penance" (ed. Brasseur de Bourbourg, p. 161). Bishop Landa expressly states that "the women of Yucatan did not make blood-offerings although they were very

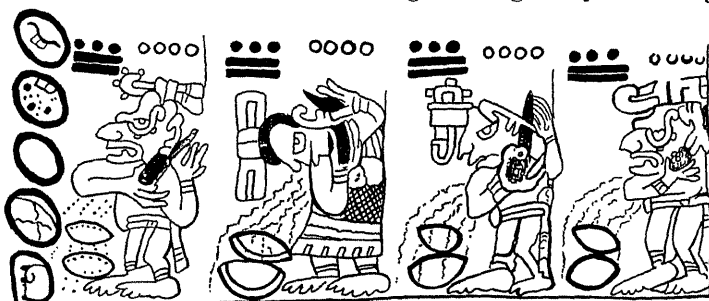


FIG. 4.

devout." It is therefore remarkable that the Maya Codex, named Troano, contains representations of three men and one woman in the act of piercing their left ears, from each of which a stream of blood falls into what are presumably small bowls placed in front of each penitent (Fig. 4). The finely carved bas-relief from Menché (Yāxchilan) which was presented to the British Museum by Mr. Alfred P. Maudslay proves that tongue-perforation was also practised in the Usumasinta valley. It represents a seated personage in the act of drawing a cord, with thorns, through his protruding tongue.

Briefly summarized; the foregoing evidence establishes that while blood was drawn from different parts of the body and offered to the gods, it was the ear-sacrifice that constituted

the salient characteristic features of the ancient native religion, being practised in every day life, by persons of all ages. After having been offered, the blood-stained pieces of cane, agave points, obsidian lancets or straws employed in the performance of the penitential rite were carefully preserved. In some cases the instruments themselves, in others strips of paper saturated with blood, were burnt, and their ashes deposited in some sacred spot. It is recorded that a feature of the great temple of Mexico was the square enclosure into which were thrown the agave points, etc., used by the priests in performing penitential rites. No documentary evidence has, however, as yet been found indicating the place where the high-priests and rulers preserved their blood offerings after performing rites, which, in their case were of such special sanctity.

On the other hand the National Museum of Mexico possesses some monuments exhibiting sculptured representations of the performance of the ear-sacrifice which yield valuable information on the subject.

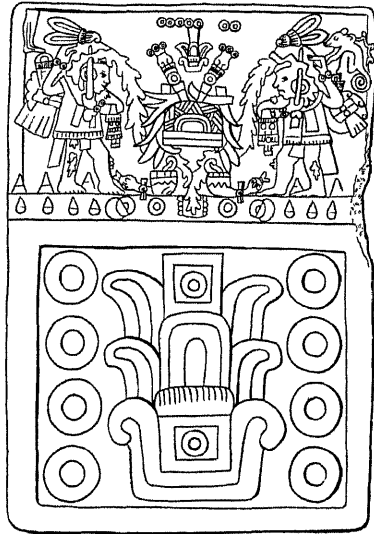


FIG. 5.

The first (Fig. 5) is the well-known historical bas-relief representing the Mexican rulers Tizoc and his successor Ahuitzotl,

each with an incense-burner at his feet in the act of piercing their helices. Between them and on a stand surrounded by laurel leaves, lies the round cushion into which two bone instruments with handles in the form of a flower, are inserted. A stream of blood falls, from each ear, into an open jaw carved in the symbolical border beneath the figures. The date recorded in the bas-relief is that of the dedication of the Great Temple and it is evident that this sculptured slab must have been inserted in some wall or monumental structure. Besides commemorating the historical event and the performance of the sacred rite it may have also marked the site where the blood offerings of both rulers were reverently deposited. Figure 6 (*a* and *b*) represents the square stone box which is preserved at the National Museum of Mexico and has been identified by different authorities as a funeral urn, or "a receptacle for the

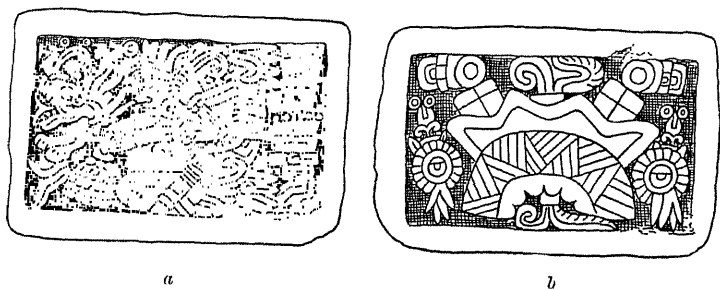


FIG. 6.

blood of human victims." The fact that a seated, one-footed personage (*a*) in the act of piercing his ear is carved on one of its sides, and that on the opposite side (*b*) is carved the grass cushion into which bone instruments are inserted appears to me to establish, beyond a doubt, that the stone receptacle was destined to receive the blood-offerings of the high-priests and rulers who performed the ear-sacrifice represented, in carving, on the box itself. An interesting detail is that, behind the seated figure, the form of a serpent is distinguishable, whose tail and head, with a recurved armlike projection, studded with star-symbols are like those of the twin serpents on the great Calendar Stone. The symbols of fire, carved on the two sides of the box, and the star-symbols accompanied by conventionalized flowers, which

figure at each side of the bone instruments, furnish evidence that the rite was associated with the god of fire and the festival of Flowers, Xochilhuitl, at which a certain form of star-worship took place. It was on this festival that, once a year, certain loaves of bread, named Xonecuilli, were eaten. The shape of these loaves resembled that of the constellation Citlal-xonecuilli, Ursa Major or Minor, described as "situated in the trumpet of the North and composed of seven stars, which formed a separate group and are resplendent" (Sahagun, book VII, chap. III).

The low square hollow stone "seat" preserved at the Royal Ethnographical Museum at Berlin (Fig. 7) is of particular interest

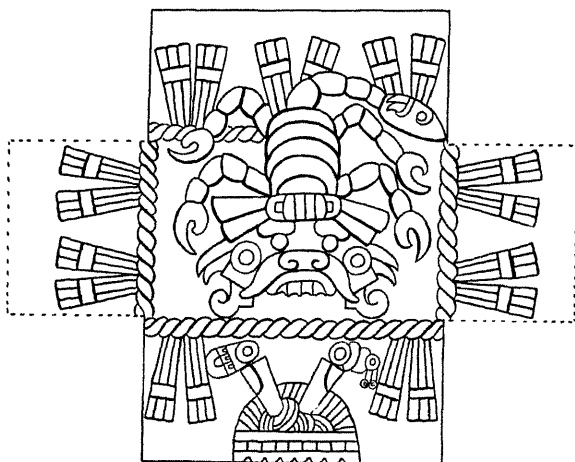


FIG. 7.

in connection with Sahagun's statement, cited above, that the hall in which the priests assembled to perform the penitential rites, "contained many seats," . . . This object was obviously associated with such rites, because its front is carved with a representation of the familiar grass cushion and the sacrificial bone instruments. Its top and back are covered by the figure of a large scorpion whose tail ends in a teapatl or flint-knife, the native symbol for the North. This carved scorpion, before which lie the woven grass ball and the bone instruments, is particularly significant because Sahagun distinctly states that the Mexicans

gave the name of "Citlal-colotl," = Star-scorpion, to the northern constellation, Ursa Major, "because it resembled the figure of a scorpion" (op. cit. book VII, chap. IV). The existence, in Mexico, of a similar hollow stone cube, much too small to have been used as a seat, but which exhibits, on its sides, two penitents piercing their ears and on its top a shallow circular receptacle, throws some doubt as to the Berlin Museum "seat" having really been intended as such.

The most important monument, which exhibits proof of having been associated with the native penitential rite and star-cult is the great statue of a crouching ocelot or native tiger (Pl. I, 1, 2, 3), which was discovered in December 1901 in the courtyard of the new Palace of Justice in the City of Mexico, by Captain Diaz, the son of the President.

This imposing monument which is the finest piece of animal sculpture that has as yet been found on the American Continent, is of particular interest, on account of its form and the association of the Mexican god Tezcatlipoca not only with the ocelot but also with the constellation Ursa Major.

According to the well-known myth, Tezcatlipoca, when cast down from heaven by Quetzalcoatl, "fell into the water where he transformed himself into an ocelot" and arose to kill certain giants. During the period of six hundred and sixty-six years Tezcatlipoca "went about in the form of an ocelot" and all "this appears in the sky for they say that the constellation Ursa Major descends to the water *because it is Tezcatlipoca* and is on high in memory of him."*

While the foregoing myth suffices to show that the great statue of an ocelot must have been considered as an image of the god Tezcatlipoca, the fact that his insignia are worn by the two personages which are carved in bas-relief on the bot-

*Historia de los Mexicanos par sus pinturas, Anales del Museo Nacional, vol. II, p. 88. The Spanish text is as follows: — "... Quegalcoatl fué sol y dexalo de ser Tezcatlipoca porque le dio con un gran baston y lo derribo en el agua y alli se hizo tigre y salio a matar los gigantes, y esto paresce en el cielo, porque dicen que la Ursa Mayor se abaxa al agua porque es Tezcatlipoca y está alta en memoria del... y ansi andava hecho tigre..." In my publication, "The Fundamental Principles of Old and New World Civilizations" (vol. 2 of the Peabody Museum Papers), by some unaccountable mistake, which I deplore, the name Huitzilopochtli was substituted for that of Quetzalcoatl in my quotation, of the above myth on page 8.

tom of the deep circular receptacle in the back of the statue positively proves the association of the god with the monument.

The relative proportions of the latter and of the stone receptacle, as shown in Pl. I, 1, 2, 3 reveal that this was an accessory only.*

The bas-relief carved on its bottom clearly indicates the purpose for which the receptacle was destined (Fig. 8).

It represents two seated personages in the act of piercing



FIG. 8.

their ears with bone instruments. In front of each is an object of the shape of an isosceles triangle, into which four agave thorns are inserted.

As in the case of the penitent carved on the stone box (Fig. 6a) both individuals are minus one foot, with the peculiarity

*It was strictly in accordance with native usage to make some form of receptacle in stone idols, for the reception of different kinds of blood-offerings. "The Book of the Life of the Ancient Mexicans," for instance, describes how bowls of human blood were poured on the head of a certain idol which presumably had, like a native stone image in my possession, a bowl-like hollow on its head.

that in one case the right foot and in the other the left foot is missing. This seemingly insignificant detail assumes a certain importance when it is realized that it recurs in the two figures sculptured in bas-relief on the rocks at the Peñon Viejo, situated near the City of Mexico (Pl. II, 1, 2) both of which likewise display the same insignia as the two personages carved on the bottom of the receptacle. A comparison of Pl. II, 1 with the carved personage to the right in Fig. 5, reveals a striking identity, for in both cases the left foot is missing, the same feather head-dress, with Tezcatlipoca's hieroglyph (the Smoking Mirror) at its side and a recurved ornament above the forehead, is worn and the identical nose-ornament and band over the face is displayed. As carved on the rock the personage thus arrayed, like the similarly one-footed victors on the Stone of Tizoc, is erect, armed with spears, and grasps the hair of a warrior who bends before him and lowers the bundle of spears held in the left hand, his right hand being uplifted and holding the atlatl or spear-thrower in the position for throwing the spear.

The date, I Tecpatl, carved beneath this group corresponds to A. D. 1480 in which year, according to the Aubin MS. the Mexicans conquered the people of Quauhnahuac or Cuernavaca, in this case the island town situated in the lagoon of Xochimilco and depicted in the Map by Alonzo de Santa Cruz preserved at the University of Upsala, Sweden. The reader is referred to the Chronicle of Tezozomoc for an interesting and graphic account of the warfare waged by the Mexicans upon the Tecpanecans and inhabitants of Xochimilco, etc., at this period, which resulted in their complete subjugation.

A comparison of the figure to the left in Fig. 8, with Pl. II, 2, reveals that, in both cases also, the right foot is missing, a similar head-dress with Tezcatlipoca's glyph is worn and as far as can be distinguished the face bands are alike.

In Pl. II, 2, the individual also stands, but is unarmed and grasps what appears to be a tree, in blossom, issuing from a circle in a square—evidently the hieroglyph of a locality. The semi-effaced date carved beneath this figure which incontestably belongs to the same period as Pl. II, 1, seems to be the year III Tochtli — corresponding to 1482, a date two years later than that carved on Pl. II, 2.

The striking identities which have been pointed out and especially that of the same feet being missing, appear to justify the inference that the two individuals carved on the bottom of the receptacle in the ocelot's back were historical personages, represented as wearing divine insignia, in accordance with established custom. The peculiarity that, in the group, both figures display both rows of teeth causes it to appear as though they wore death-masks under their face-bands — a fact which is explainable since one of Tezcatlipoca's titles was "Mictlantecuhli," or the "Lord of the North," the Underworld, and by extension, of the dead who go there.

The indications that the above individuals were historical personages not only accord with the evidence furnished by the commemorative tablet described above (Fig. 5) but suggest the interesting explanation that the sculptured ocelot was also commemorative and possibly votive, and dates from after the year 1482. The view that the ocelot was an actual image of the god Tezcatlipoca and that the ear-sacrifice was particularly associated with his nocturnal worship, is sustained by the following significant details.

A critical examination of the sculptured ocelot discloses that the large side whiskers at each side of its head are undoubtedly purely conventional. The ocelot does not possess them in reality and their existence could not have been suggested to the sculptor by a study of the animal from life. Thus far no other similar representation of an ocelot with side whiskers, is known to exist in Mexican carving or painting — the usual mode of figuring the sparse bristly hairs on the upper lip of the ocelot being more true to life.

Strange to say, the only similar instance I have found, of the ocelot with conventionalized whiskers, is that carved on a slab discovered by Dr. Le Plongeon at Chichen Itza, Yucatan.*

While this remarkable coincidence, which is in keeping with other analogies between Chichen Itza and Mexican art, furnishes fresh food for reflection, it is well to bear in mind that other sculptured representations of the ocelot also exist at Chichen Itza and do not exhibit the conventional feature.

*An illustration of this slab was first published by Dr. Le Plongeon opposite to p. 85 in "The Sacred Mysteries of the Mayas." New York, 1886.

What is more: The only native American beast of prey which possesses a similar hairy fringe is the wild cat, the lynx or *Felis rufus*, which is remarkable for its brilliant eyes and habit of prowling about at night.

Whilst the possibility naturally suggests itself that the native sculptor might have purposely combined the features of both beasts of prey in order to add to the impressiveness of his statue, the indications are that his aim was not to produce a naturalistic image but an imposing idol of Tezcatlipoca under the form the god had according to the myth assumed and borne for "six hundred and sixty six years."

A side light is thrown upon the symbolism of the hirsute appendages and the reason for their presence by one of the bas-reliefs carved on the remarkable stone box* which belonged to the late Señor Islas de Bustamante, the photographs of which are published here, for the first time (Plates III, IV and V).

The bas-relief (Pl. III, 2), exhibits a seated personage with crossed and sandalled feet, in the act of piercing his ear with the usual bone instrument. To his right lies a smoking incense-burner whose handle terminates in a serpent's head. To his left, standing upright, is the same pointed object which figures in the bas-relief on the bottom of the receptacle in the back of the ocelot. It is noticeable that this object is of the same form and exhibits the same markings, resembling a woven pattern, that recur on the four agave points stuck into it. This circumstance and the incisions at its base and side appear to indicate that it was the thick fleshy top of an agave leaf such as Sahagun describes as having been used by the priesthood as cushions for the thorns employed in performing their penance.

The most important and interesting features in connection with the seated figure are that he not only displays a peculiarly shaped beard, resembling the hairy appendages of the ocelot statue, but is also associated with the ocelot itself. At the back of his head, above his left hand, the head of an ocelot is visible, whose skin hangs behind his back, the tail ending below his knee. Besides this the personage wears leggings made of the spotted ocelot skin and a rattlesnake girdle from which hang two conventionalized hearts.

* Dimensions: 34 X 52 centimetres, interior depth 16 centimetres, exterior height 20 centimetres.

It is interesting to find that in a note written beneath its photograph the late Señor Islas de Bustamante, independently identified the above figure as a representation of "Ocelotl-Tezcatlipoca," or Tlatoca-ocelot, lit. the Lord Ocelot (a title which is also recorded by Serna in chap. ix) and described as wearing "the beard of the mask of Tezcatlipoca." Pointing out that in the above figure, as in the ocelot statue, there is a combination of the ocelot, the beard and the ear-sacrifice, I will briefly review the sculptured figures on the other three sides and on the interior and exterior base of the stone box under discussion.

Plate III, 1, exhibits a seated personage in the same attitude and with the same accessories as in Fig. 6, but displaying the same head-dress with Tezcatlipoca's glyph, and the same face markings as those of the left figure of the group in the ocelot receptacle (Fig. 8). A noticeable difference is that, in one case the right and in the other the left foot is missing.

A third seated and one-footed personage also exhibiting Tezcatlipoca's insignia, is carved on the side of the stone box (Pl. v, 1) which has unfortunately been mutilated, a hole having been bored through it and a lead pipe inserted by a previous owner, in order to employ the box as a water fountain. The symbols carved on the fourth side of the box (Pl. iv, 1) closely resemble those on the stone box of the National Museum (Fig. 6).

The grass ball which figures in both of these recurs on the bottom of the stone box under discussion (Pl. iv, 2), while a remarkable and unidentified monster, covered with spines, and figured as on water, covers the exterior of its base (Pl. v, 2).

A résumé of the foregoing archaeological material brings out the interesting fact that there are known to exist no less than ten sculptured representations of individuals performing ear sacrifice.

In the case of the commemorative slab the personages are unquestionably historical and the performance of the rite associated with the dedication of the Great Temple of Mexico. The two one-footed personages carved on the bottom of the receptacle of the ocelot statue appear to be identical with the con-

querors carved on the rocks at the Peñon with the dates I Tecpatl and III Tochtli (A.D. 1480 and 1482).

These conquerors, like the sixteen carved on the so-called "Stone of Tizoc," the penitents carved on the bottom of the ocelot receptacle and those on the exterior of two of the stone boxes described, making a total of $2 + 16 + 2 + 1 + 3 = 24$ individuals, are, with only one exception, one-footed, while all exhibit the insignia of the god Tezcatlipoca. This overwhelming evidence, by the way, amply substantiates my identification of the one-footed god depicted in the Codices as Tezcatlipoca.* The sixteen one-footed warriors on the "Stone of Tizoc" and those on the Peñon rocks — all of which may, possibly, represent one and the same person — either prove that a native conqueror existed who was actually one-footed and had adopted the insignia of Tezcatlipoca, or that it was customary, in representing living personifications of the god, to emphasize one of his symbols, the lame foot, even if the mutilation did not exist in reality.

I am indebted to Father Hunt Cortès for the interesting fact which he has also published, that after having been tortured by the Spaniards, the unfortunate Quauhtemoc the last of Mexican rulers, was named Xonecuiltzin = the lame lord; a title or nickname which may well have previously been bestowed on other personages equally lame.

To Don Mariano Rojas, the oldest inhabitant of the town of Tepoztlan (Morelia) in which the Nahuatl language is not only spoken, but cultivated, I am indebted for the interesting personal communication that one of his earliest recollections is that of his old grandfather pointing out to him the seven stars of the constellation of Ursa Major and telling him that its name was Xonecuilli.

This valuable testimony in conjunction with Sahagun's statement that "the stars which are in the mouth of the trumpet of the North were named citlal-xonecuilli and that the

*See Fundamental Principles of Old and New World Civilizations, p. 10, etc. Dr. Theodor Preuss has criticised this identification of mine, stating his opinion that in a certain case, the god appeared to be "Tlauizpantecuhli." I merely point out here that the latter name is a title only: "the lord of the dawn" and that, in several publications, Professor Selser has observed that "Tlauizpantecuhli not only wears the same insignia as Tezcatlipoca but may be regarded as a form of this god."

natives figured its seven stars in a group of the shape of an S, definitely associates the name Xonecuilli with one or both of the Ursa constellations,* and with Tezcatlipoca who is found figured in painting and sculpture as a Xonecuiltzin or "lame lord."

While the bas-relief figures described definitely connect one-footedness with Tezcatlipoca, they also prove the association of the ocelot with this god. The representation of the ear-sacrifice on the exterior of three and interior of one in the stone receptacles clearly indicates, moreover, the purpose for which the latter were destined; namely to contain the blood-stained thorns, sticks or papers, which constituted the sacred offerings, or their ashes.†

In conclusion: The main result of the foregoing investiga-

*Rejecting Sahagun's testimony in this case and stating that the friar "could not have meant what he wrote," Professor Seler prefers to adopt the statement on the subject made by Don Hernando Alvarado Tezozomoc who is supposed to have been born in 1520 and to have written his work at the age of 78.

In Tezozomoc's description of the ceremonies held in honor of the inauguration of Montezuma II as ruler of Mexico, he gives a résumé of the exhortation addressed to the new ruler by the twelve electors. In this Montezuma is enjoined particularly to yield homage, at the break of day, to "the star Xonecuilli, which is the cross of St. Jacob, which is in the region of the South, in the direction of the Indies and the Chinas."—(Cronica Mexicana, p. 574.)

I cannot but think that Professor Seler and his follower Dr. Preuss will find it difficult to persuade American scholars to accept as authentic the Mexican priest's allusion to "the direction of the Indies and Chinas;" to interpret this direction as that occupied by a Southern constellation; and to prefer Tezozomoc's evidence so clearly tinged with European influence, to that preserved in the notes written by Friar Sahagun under the dictation of the aged and most learned of native chieftains whom he gathered around him in Texcoco and questioned about their ancient beliefs, etc.

‡In a recent publication, the Spanish translation of which was published in the *Anales del Museo Nacional de Mexico* (tomo VII, p. 260), Prof. Edward Seler, on account of the carved feather-frieze on the interior wall of the receptacle in the Ocelot statue's back, pronounces *ex cathedra*, that this monument is a "Quauhxicalli" or vase destined to hold the hearts of human victims. In making this identification Professor Seler entirely overlooks what appears to be so obvious a fact, namely that the scene carefully depicted on the bottom of the receptacle furnishes more important testimony as to the object for which it served than the decorative feather frieze, which is a mere accessory. It stands to reason that a "vase of the eagles destined to receive the hearts and blood of human victims," would be more likely to exhibit carved representations of eagles, human hearts and human sacrifices, than the images of two persons in the act of drawing blood from their ears.

What is more: in treating of this native statue of an ocelot Professor Seler ignored the relation of this animal to Tezcatlipoca, just as he passed over in silence not only the existence but the prevalence of the rite of ear-sacrifice in his discussion of its performance by the two sculptured personages whom he identifies as "gods" or "Tezcatlipoca under two forms."

tion is a recognition of the hitherto disregarded fact that the rite of voluntarily drawing blood, principally from the ear, was a feature of every-day life in Ancient Mexico which was performed by young and old. It is but just to recognize what a meritorious deed the Spanish Conquerors performed when they summarily abolished so barbarous a practice, which, of itself, sufficed to fill them with disgust for the native ritual.

The other results obtained are the certainty that the three stone boxes described and possibly the "seat" in the Berlin Museum, as well as the receptacle in the back of the ocelot statue, were destined to hold ear-blood offerings made to Tezcatlipoca; that the ocelot-statue was an image of this god under the form he had mythically assumed for 666 years; that a close chain of evidence connects Tezcatlipoca with the circumpolar constellations and establishes his identity as the one-footed or lame star-god of the Codices, the personification of Xonecuilli or of Ursa Major, who, like pole-star gods in other parts of the world, was conceived by the Mexicans as fastened by one foot to the pole and performing a perpetual circuit around it by means of the foot which remained free.



FIG. 1.



FIG. 2.



FIG. 3.

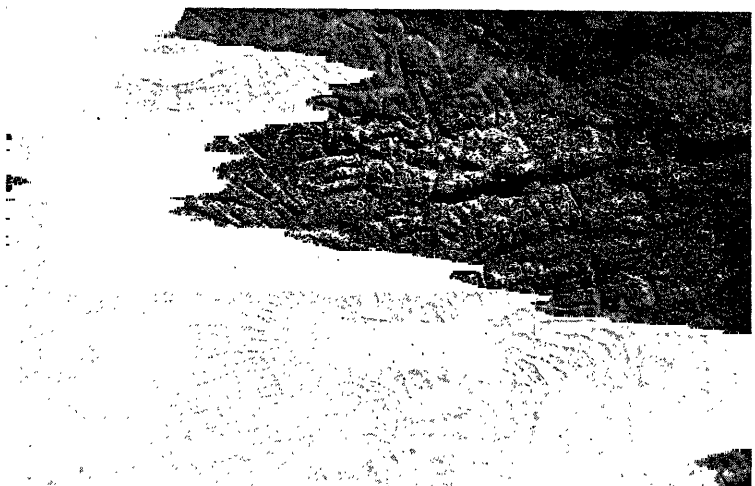


FIG. 1.



FIG. 2.



FIG. 1.



FIG. 2.





FIG. 1.



FIG. 2.





FIG. 1.

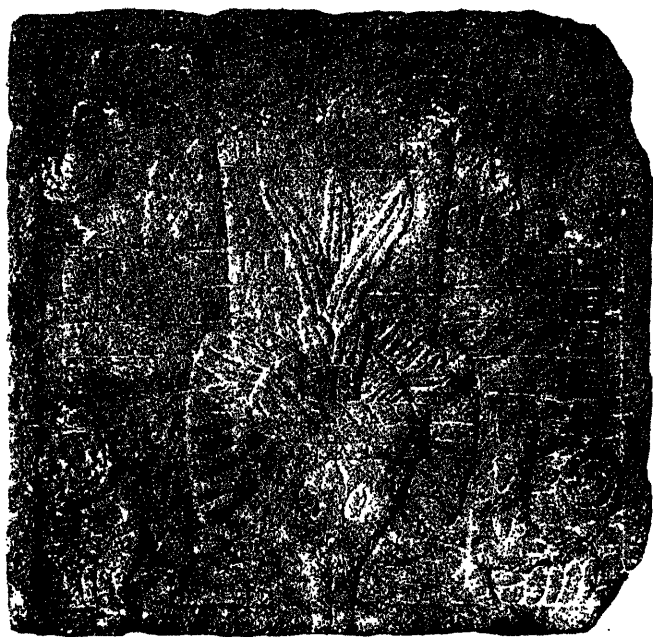


FIG. 2.



CATALOGUED.

me,

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"A book that is shut is but a block"

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